Exhibit D

Biological Assessment

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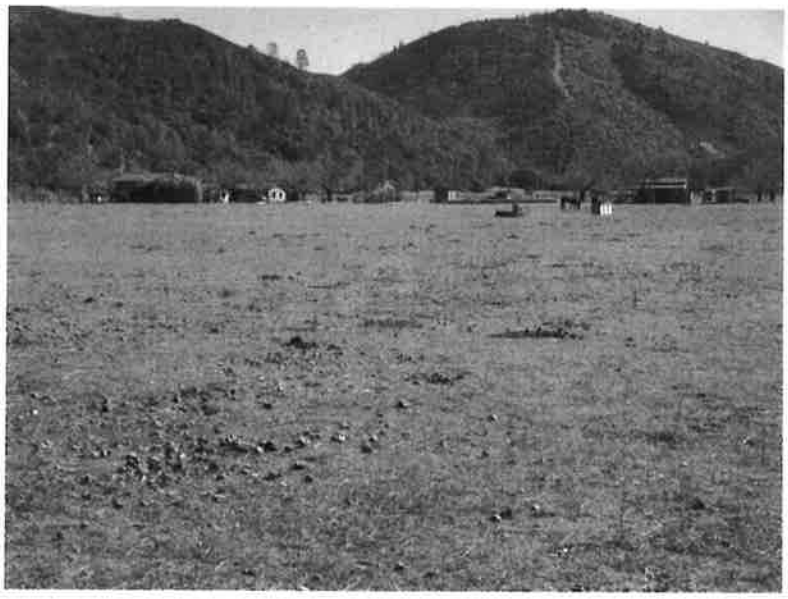

BIOLOGICAL RESOURCES ASSESSMENT

Prepared For:

LC5029 LLC
2400 Clover Valley Road
Upper Lake, CA 95485
APN: 004-007-12

Date: 9 March 2020

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Table of Contents

Section 1.0: Introduction

This report is intended to summarize the background, methods of survey, and results of a biological site assessment conducted on 24 February 2020 at 2400 Clover Valley Road, Upper Lake, CA 95485 (APN: 004-007-12; Appendix A: Location Map, Property Aerial Map, and Site Visit Map) for the purpose of obtaining a Lake County commercial cannabis permit. This report includes the following:

- Background, Regulations, and Project Description; (Section 2)
- Project Area Setting (Section 3)
- Field Survey Methodology (Section 4)
- Field Survey Results (Section 5)
- Assessment Summary and Recommendations (Section 6)
- Supporting Figures (Appendix A)
- Tables of Special-Status Plants and Wildlife from California Natural Diversity Database (CNDDB) & California Native Plant Society (CNPS) Database and amended with survey results from U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) (Appendix B)
- Table of Species Observed (Appendix C)
- Representative Photographs of Project Areas (Appendix D)

Section 2.0: Regulations, and Project Description

2.1 Regulatory Setting

In addition to the requirements of Lake County's Commercial Cannabis Cultivation Ordinance (Ordinance 3073), the proposed projects shall comply with federal, state, and local regulations designed to protect sensitive natural resources. An initial site visit was conducted on 24 February 2020 to assess biotic resources within the three (3) Project Areas (PA): PA1 a proposed early activation outdoor cannabis cultivation area, PA2 a proposed mixed light cannabis cultivation project, and PA3 a proposed removal of a pre-existing cultivation area (Appendix A: Site Visit Map).

The following natural resources are protected under one or more of several Federal and/or State regulations and should be considered when designing and/or implementing cannabis related projects.

Essential Fish Habitat: protected through changes to the Magnuson-Stevens Fishery Conservation and Management Act to maintain sustainable fisheries in the United States, administered by National Marine Fisheries Service (NMFS):

- Includes habitats (rivers, creeks, estuaries) that may support anadromous fish (fish migrating from ocean habitat into freshwater river habitat), as well as commercially and/or ecologically valuable fishes

Local Regulations: Lake County Commercial Cannabis Cultivation Ordinance 3073 regulates the cultivation of commercial cannabis on private lands in Lake County, California. This ordinance includes limiting harmful environmental impacts that are sometimes associated with cannabis cultivation and is to "establish reasonable regulations upon the manner in which cannabis may be cultivated in order to protect the public peace, health, safety, welfare and environment in Lake County." The ordinance requires a section on Fish and Wildlife Protection be included in the Property Management Plan. According to the ordinance,

> (a) Intent: To minimize adverse impacts on fish and wildlife.
>
> (b) In this section permittees shall include:
>
> > a. A description of the fish and wildlife that are located on or utilize on a seasonal basis the lot of record where the permitted activity is located.
> >
> > b. A description of the habitats found on the lot of record.
> >
> > c. A description of the watershed in which the permitted activity is located.
> >
> > d. Describe how the permittee will minimize adverse impacts on the fish and wildlife.
> >
> > e. A map showing the location of any conservation easements or wildlife corridors proposed.

The Ordinance also identifies these prohibited activities that are relevant to this sub-plan:

"Tree Removal. The removal of any commercial tree species as defined by the California Code of Regulations section 895.1, Commercial Species for the Coast Forest District and Northern Forest District, and the removal of any true oak species (*Quercus* species) or Tan Oak (*Notholithocarpus* species) for the purpose of developing a cannabis cultivation site should be avoided and minimized. This shall not include the pruning of any such tree species for the health of the tree or the removal of such trees if necessary, for safety or disease concerns."

Sensitive Natural Communities: protected under the California Fish and Game Code (CFGC), administered by California Department of Fish and Wildlife (CDFW):

- Includes terrestrial vegetation or plant communities that are ranked by NatureServe and considered "threatened" or "endangered" by CDFW, lists of such are included in *List of Vegetation Alliances and Associations* (CDFG 2010)
- *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

Special-status Plant and Wildlife Species including Critical Habitat: protected under one or more of the Federal Endangered Species Act (ESA), California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), administered by the USFWS, and/or CDFW:

- Includes plants listed under the ESA and/or CESA, or those plants ranked by the CNPS as Rank 1, 2, 3 and 4.
- Includes wildlife listed under the ESA and/or CESA, and wildlife listed by CDFW as Species of Special Concern, Fully Protected Species, and/or Special-status including Invertebrates, Birds of Conservation Concern listed by USFWS, Species of Concern listed by NMFS, and Western Bat Working Group (WBWG).

Streams, Lakes, and Riparian Habitat: protected under the California Fish and Game Code CFGC, administered by the CDFW:

- Includes creeks and rivers (bodies where water flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life), and vegetation adjacent to and associated with (riparian habitat)

Waters of the State: protected under the Porter-Cologne Act, administered by the State Water Resources Control Board (SWRCB)

Waters of the U.S.: protected under the Clean Water Act (CWA), administered by the Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (Corps):

- Includes wetlands, streams, rivers, and other aquatic habitats meeting the guidance issued by the Corps.

2.2 Project Description

It is the understanding of Jennifer Hawley Bio Consulting that LC5029 LLC is proposing to develop two (2) cannabis cultivation sites and remove a pre-existing cultivation area at 2400 Clover Valley Road in Lake County, California (APN: 004-007-12: 33.87 acres; Appendix A: Property Aerial Map and Site Visit Map; Appendix D: Photos 1-24). Such projects must conform to the requirements of the California Department of Fish and Wildlife (CDFW) Lake or Streambed Alteration Agreement per the California Department of Food and Agriculture (CDFA) CalCannabis Program (BPC 26060.1 (b) (3). An initial site visit was conducted 24 February 2020 to assess biotic resources within the three (3) Project Areas.

Section 3.0: Project Area Setting

The following subsections summarize the physical and biological settings of the Project Areas.

The proposed cannabis projects occur on one 33.87-acre parcel situated approximately 2.6 miles southeast of Upper Lake CA, located in Section 9, T15N, R9W, in Mount Diablo Base and Meridian, on the Bartlett Mountain USGS 7.5-minute quadrangle. The property is located within

the Clover Creek Watershed (HUC-12 180201160204), receives an average of 35 inches of rainfall per year, and is situated at approximately 1,430 feet (436 meters) elevation.

3.1 Topography and Soils

According to the United States Department of Agriculture, Natural Resources Conservation Service's *Web Soil Survey* (USDA 2020; Appendix A: Soil Map), the property is underlain by three soil mapping units: Still loam, stratified substratum (Map Unit 233), Still gravelly loam (Map Unit 234), and Xerofluvents-Riverwash complex (Map Unit 249}. The proposed cultivation areas primarily occur within the Still loam, stratified substratum. Descriptions of the soil series are as follows (USDA 2020 and 1989):

Still loam, stratified substratum (Map Unit Symbol: 233): Included in this unit are small areas of Cole, Cole Variant, Kelsey, Lupoyoma, and Talmage soils and Xerofluvents. Included areas make up about 20 percent of the total acreage. The native vegetation in not cultivated areas is mainly annual grasses and forbs with scattered oaks. Elevation is 1,000 to 2,000 feet.

Still gravelly loam (Map Unit Symbol: 234): Included in this unit are small areas of Cole Variant, Kelsey, Lupoyoma, and Talmage soils and Xerofluvents. Included areas make up about 20 percent of the total acreage. The native vegetation in not cultivated areas is mainly annual grasses and forbs and few scattered oaks. Elevation is 1,300 to 2,000 feet.

Xerofluvents-Riverwash complex (Map Unit Symbol: 249): Included in this unit are small areas of Kelsey, Maywood Variant, and Talmage soils. These included areas make up approximately 15 percent of the total acreage. The native vegetation is mainly sparse annual grasses and forbs. Elevation is 750 to 2,800 feet.

- Still series consists of very deep, well drained soils on alluvial plains. These soils formed in alluvium derived from mixed sources. Slopes range from 0 to 8 percent.
- Xerofluvents consist of very deep, excessively drained soils that formed in alluvium derived from mixed rock sources.
- Riverwash is very deep water-deposited sediment consisting of sand, gravel, cobbles, and stones in active stream channels.

Cultivation related activities are expected to occur in Map Unit 234. The typical pedon for this soil unit is as follows:

Ap--O to 8 inches; dark grayish brown (10YR 4/2) clay loam, very dark gray (10YR 3/1) moist; moderate medium granular structure; hard, friable, sticky and plastic; many very fine and fine roots; many very fine, common fine and medium tubular pores; slightly acid (pH 6.5); clear smooth boundary. (5 to 10 inches thick)

A12--8 to 25 inches; dark grayish brown (10YR 4/2) clay loam, very dark gray (10YR 3/1) moist; weak medium subangular blocky structure; hard, friable, sticky and plastic; many very fine and fine roots- many very fine, common fine and medium tubular pores; slightly acid (pH 6.5); gradual wavy boundary. (15 to 20 inches thick)

C1--25 to 34 inches; grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; many very fine, common fine and few medium tubular pores; moderately alkaline (pH 8.0); clear smooth boundary. (7 to 15 inches thick)

IIAb--34 to 53 inches; dark grayish brown (10YR 4/2) clay loam; very dark gray (10YR 3/1) moist; moderate coarse subangular blocky structure; very hard, firm, sticky and plastic; few very fine roots; many very fine, common fine and few medium tubular pores; moderately alkaline (pH 8.0); gradual wavy boundary. (12 to 20 inches thick)

IIC2--53 to 60 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; hard, friable, sticky and plastic; many very fine and common fine tubular pores; moderately alkaline (pH 8.0).

3.2 Biota and Land Use

The level, valley floor of Clover Creek Valley has been highly modified and impacted by human practice for over 100 years. European settlers arrived in the area in the late 1800's and brought with them agricultural practices that are still very much present today. Clover Valley is particularly popular for walnut cultivation, which was the main form of agriculture on this property from the recent past until 1985/1986. After the mid-1980's, the orchard was removed and turned into pasture lands. The process of extracting all the established tree trunks and turning over the soil to create pasture is an intensive process which resulted in creating a highly disturbed/ruderal non-native grassland. Hence, the dominant habitat type of this parcel is agriculture and non-native grassland.

Historically the valley floor was likely dominated by a mixed oak woodland; three (3) oak species were observed within and adjacent to the property, black oak (*Quercus kelloggii*), Oregon white oak (*Quercus garryana*), and valley oak (*Quercus lobata*). The forested hillsides surrounding the Clover Creek valley are composed of these abovementioned tree species, as well as Douglas fir (*Pseudotsuga menziesii*), pacific madrone (*Arbutus menziesii*), gray pine (*Pinus sabiniana*), and chaparral; blue oak (*Quercus douglasii*) and ponderosa pine (*Pinus ponderosa*) are also both typical species in this area, although neither were observed in the immediate area. Today, other than grasslands, the habitat existing on this property includes a few mature oak trees, remnant walnut trees lining the driveway, shrubs, small trees, and grasses along the fence-lines, and landscaping around the residences. Unique habitat features include: 1) Clover Creek just north of the property boundary, and 2) at a small wet area in the west corner of the property (Appendix A: Site Visit Map). Here, and throughout the property, it is very apparent that Clover Creek's channel has historically meandered within this valley floor. The earth is thick with rock and gravel, and apparently friable, as the property is home to a dense population of California

grounds squirrels (*Otospermophilus beecheyi*) and other rodents, likely gopher (*Thomomys* sp.). From a report about the middle creek/clover creek watershed in 2008, "longtime residents described changes in water resources. They remembered that Clover Creek once ran year round, and trout were present. Middle Creek also flowed year round, although it went underground in some places" (County of Lake 2010).

Section 5 provides a detailed account of the biological communities found on-site, including sensitive and non-sensitive biological communities, and additionally, the special-status flora and fauna with potential to occur within the Project Areas.

Survey Area 1 (SA1) is a previously disturbed area (historic walnut orchard and now pasture) which is now ruderal grassland and contains Project Area 1 (PA1; Appendix A: Site Visit Map; Appendix D: Photos 1-4). PA1 is proposed to be a cultivation site of 217,800 square feet of cannabis canopy grown in raised beds.

Survey Area 2 (SA2), which includes Project Area 2 (PA2), can also be described as a disturbed, non-native grassland. This site is proposed to include a 28,000 square foot greenhouse (Appendix A: Site Visit Map; Appendix D: Photos 5-8).

Survey Area 3 (SA3) includes a former cultivation site (Project Area 3: PA3), which is no longer being used (Appendix A: Site Visit Map; Appendix D: Photos 9-11). On the southern edge of the PA3 fence, exists the only observed manzanita shrubs (4) on the property and a mature oak tree. The goal is to remove the cultivation area infrastructure and fence while retaining the manzanita and oak tree. The landowner is interested in a restorative approach to this project and is interested in consultation about which native flora to plant here to provide nectar for the native bumblebees and hummingbirds, cover and nesting materials for wildlife - such as local bunch grasses, trees, and shrubs, and hanging bat houses.

Section 4.0: Field Survey Methodology

4.1 Assessment Methods

A biological resource assessment is designed to assess the potential for the presence of sensitive wildlife species and to determine whether habitat for sensitive plant species and plant communities may or may not be present at the proposed Project Areas and 100 feet beyond the Project Area boundaries. The purpose of this analysis is to assess the potential for cumulative impacts to biological resources that may occur as a result of the proposed cannabis cultivation and decommission projects.

The basis of the biological assessment analysis is a comparison of existing habitat conditions within the Project Areas to the geographic range and habitat requirements of sensitive plant and wildlife species. Input includes plant community (including development stage), soil structure, and special features such as presence of water, snags, cover, and food (fruit, seeds, insects, etc.). Hence the areas surveyed may be much larger than the Project Areas, in an effort to greater

assess the immediate ecological setting. The approach is conservative in that it tends to over-estimate the actual number of species present.

4.2 Database Resource Descriptions

The potential for occurrences of rare, threatened, endangered or plant and animal species of concern within or near the Study Areas were evaluated by reviewing topographic maps, aerial photography, the California Native Plant Society's Rare Plant Rank (CRPR) electronic inventory (online edition, v8-03 0.38; CNPS 2020), the CDFW's California Natural Diversity Database (CNDDB) Spotted Owl Data Viewer and California Natural Diversity Database (CNDDB) Quick Viewer (online edition, v5.85.14; CDFW 2020). LAKE COUNTY MAPPING DATABASE???

The CRPR database produces a list of sensitive plants potentially occurring at a site based on various site characteristics (location(s) of Project Area with regard to the geographic range of sensitive plant species, location(s) of known populations of sensitive plant species as mapped in the CNDDB, soils of the Study Area, elevation, presence/absence of special habitat features, and plant communities existing within the Project Area). While use of the CRPR inventory does not eliminate the need for an in-season botanical survey, it can, when used in conjunction with other information, provide a very good indication of the suitability of a site as habitat for sensitive plant species. The CNDDB database consists of mapped overlays of all known populations of sensitive plants and wildlife. The database is continually updated with new sensitive species population data

Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

> A species, subspecies, or variety of plant is **"endangered"** when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is **"threatened"** when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is **"rare"** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its habitat continues to deteriorate.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities was used as a guide to the names and status of communities.

The rare plants (native, vascular and non-vascular) and animals assessed are of limited abundance in California, with known occurrence or distribution in Mendocino County, and were derived from the following lists:

- Federal listed or threatened or endangered plants or species of concern (FT, FE, FSC)
- California State listed or rare, threatened or endangered plants or species of concern (SR, ST, SE, SP, SSC)
- Board of Forestry Sensitive (BFS)
- California Department of Fish and Wildlife (CDFW) Status animals: Fully Protected, Species of Special Concern and Watch List (FP, SSC, WL)
- California Native Plant Society Rare Plant Rank (CRPR) list 1A species (plants presumed extirpated in California, and either rare or extinct elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 1B species (plants rare, threatened or endangered in California and elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2A species (plants presumed extirpated in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2B species (plants rare, threatened, or endangered in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 3 (plants which more information is needed- a review list)
- California Native Plant Society Rare Plant Rank (CRPR) list 4 (plants of limited distribution- a watch list)

4.3 Database Assessment Results

For the identification of species and habitats, a scoping was performed across the eight USGS quadrangles which surround the proposed Project Areas, with the Bartlett Mountain USGS quad included as the 9th quad at the center.

The distance is chosen to account for the possible distribution of animal and plant species and habitats. In addition, a 1.3-mile radius scoping area was completed for the identification of northern spotted owl (NSO) activity centers. No spotted owl territories were within the 1.3-mile buffer; the closest known NSO activity center occurs at 3.3 miles east (CNDDB 2020).

To characterize existing biological conditions and identify potential impacts to sensitive habitats resulting from implementation of the proposed projects, Jennifer Hawley conducted a biological site assessment of the Project Areas on 24 February 2020, consisting of approximately 7.5 hours. The Survey Areas were assessed to document: (1) the on-site plant communities, (2) existing conditions and to determine if such conditions provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive biological communities (e.g. wetlands) are present. Plant species observed during the site assessment were recorded and are listed in Appendix D. Plants listed in Appendix D were identified using *The Jepson Manual: Vascular Plants of California*

2nd Edition (Baldwin et al. 2012) to the taxonomic level necessary to determine rarity. Names given follow *The Jepson Flora Project* (JFP 2020).

Biological communities present in the Survey Areas were classified based on existing plant community descriptions described by *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) or *Manual of California Vegetation*, Online Edition (CNPS 2020). However, 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. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

4.4 Biological Communities

4.4.1 Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations, and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species, and are described in section 5.1 below.

4.4.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that may be afforded special consideration under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in section 2.0. Special methods used to identify sensitive biological communities are discussed below.

Waters of the U.S.; Waters of the State; and Streams, Lakes, and Riparian Habitat

Clover Creek, a Class I/II creek, exists at the northern boundary of the parcel.

A small seasonal pool was discovered in the western corner of the property. Most of this feature exists on the neighboring parcel.

Sensitive Natural Communities

In addition to surveying sensitive aquatic resources (e.g., streams, stock ponds), Jennifer Hawley evaluated sensitive natural communities within the Project Areas. Sources for assessing sensitive natural communities include *Terrestrial Natural Communities of California* (Holland 1986) and *A Manual of California Vegetation* (CNPS 2019b).

4.5 Special-status Species

Prior to the site visit, databases (listed above) were accessed to determine whether special-status species were documented on the Bartlett Mountain quad and the 8 surrounding quad maps. During the site visit, existing habitat conditions were evaluated and used to assess the potential

for presence of all special-status species listed from the databases. The potential for each special-status species to occur in the Project Area was then evaluated according to the following criteria:

- No Potential. Habitat on and 100 feet adjacent to the Project Area 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 100 feet adjacent to the site is unsuitable or very poor quality. The species is not likely to be found on-site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or 100 feet adjacent to the Project Area is unsuitable. The species has a moderate probability of being found on-site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or 100 feet adjacent to the Project Area is highly suitable. The species has a high probability of being found on-site.
- Present. Species is observed on the site or has been recorded (i.e. CNDDB) on-site recently.

The site assessment is intended to identify the presence or absence of suitable habitat for special-status species within the Project Areas. The site visit does not constitute a full season protocol-level survey and is *not* intended to determine the actual presence or absence of a species. If a special-status species is observed during the site visit, its presence will be recorded and discussed. All plant and wildlife species observed and identified were recorded and are included in Appendix C.

Critical habitat is a term defined by the ESA as a specific 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.

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. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Section 5.0: Field Survey Results

5.1 Biological Communities

5.1.1 Non-sensitive Biological Communities

Non-native grassland

Non-native annual grasslands occur on fine-textured soils, throughout cismontane California at elevations below 4,000 feet (Holland 1986). Non-native grasslands typically have dense to sparse cover of annual grasses and is often associated with native and non-native forbs. Plant species found to occur in these areas include: wild oat (*Avena fatua*), quaking rattlesnake grass (*Briza major*), soft chess (*Bromus hordeaceus*), velvet grass (*Holcus lanatus*), bull thistle (*Cirsium vulgare*), dogtail grass (*Cynosurus echinatus*), foxtail barley (*Hordium murinum*), creeping rye grass (*Elymus glaocus*) big heron bill (*Erodium botrys*), subterranean clover (*Trifolium subterranium*), shamrock clover (*Trifolium dubium*), cutleaf geranium (*Geranium dissectum*), buttercup (*Ranunculus* sp.), spring vetch (*Vicia sativa*), and other emerging grasses (Holland 1986).

The only forbs and grasses of any stature during the visit occurred along fence lines. In addition to some of the above listed species, other species observed which are typical or disturbance and/or are non-native included: medusa head grass (*Elymus caput*), Himalayan blackberry (*Rubus armeniacus*), milk thistle (*Silybum marianum*), plantain (*Plantago lanceolate*), and vetch (*Viscia sp.*). Appendix C lists all the plants observed during the site visit on 24 February 2020. Within the fields, all grasses were only just sprouting with other emergent/spring vegetation. Large areas of star thistle occur in both SA1 and SA2 (Appendix D: Photo 7). The remaining pasture surrounding the large patch of star thistle in SA2 appeared to have been mowed, whereas the remaining area in SA1 was primarily managed via the grazing of three (3) horses. SA1 and SA2 also have healthy populations of California ground squirrels and gophers. Uncountable number of burrow entrances exist in these survey areas. The ground squirrel burrows were distinct by entrance size, debris at the entrance, and the mound (Appendix D: Photos 12-13).

5.1.2 Sensitive Biological Communities

Seasonal Wetlands or Ponds

Clover Creek is approximately 110 feet north of the fence at PA3 and outside of the property boundary. An area of standing water was found in SA1, of which 95% occurs on the neighboring property; no wet areas or ponds were located within SA2 or SA3.

The small pool was observed in the western corner of the property (PHOTO 14-17). Only approximately 5% of the pool occurs within the parcel (APN: 004-007-12) and therefore the majority of this feature was inaccessible. The water source appears to be a spring which surfaces at the base of the roadcut on the neighboring parcel. Review of the site on Google Earth reveals images of standing water from as early as 2005. As I was unable to survey 95% of the area, the figure drawn on the Site Visit Map is only an estimate of the pool's area. The water edge habitat, in the area I did survey, had limited vegetation and was impacted from use by the grazing horses. As this was also along the fence and roadcut, shrubs and trees and woody

vegetation were also present. The habitat on the opposite side of the fence (to the west), however, was strongly indicative of a seasonally wet area. Observations worth noting include racoon tracks, crayfish "chimneys" in the mud, two Pacific chorus frogs vocalizing, and a significant density of the native aquatic vegetation hairy waterclover (*Marsilla vestita*). Additionally, I am fairly certain I observed multiple 1-2" fish (as it was too early for tadpoles), yet there was no connection of this pool to Clover Creek or any indication that such a connection had existed any time in the recent past. It was decided that perhaps mosquito fish had been introduced in the past.

As this area qualifies as a sensitive biological community, a 100-foot buffer will be placed around this wet area and no development or habitat modification will occur inside the buffer (See Appendix A: Site Visit Map).

5.2 Special-status Species

5.2.1 Special-status Plant Species

Upon review of the resource databases listed in Section 4.2, 60 special-status plant species have been documented within the vicinity of the Project Areas. Please refer to Appendix B for a table of all special-status plant species which occur within the vicinity of the property and discussion of the potential for each species to occur within the Project Areas. No sensitive plant species were observed during the survey. Special-status species documented within a five-mile survey radius are depicted in Appendix A: CNDDB Map. Eleven (11) special-status plant species have the moderate or high potential to occur within the Project Areas. Although the seasonal pool is outside of PA1, two (2) species associated with vernally mesic areas were included in the list to cover all possibilities. Of the 60 special-status species documented within the vicinity of the Project Areas, 49 special-status species are unlikely or have no potential to occur due to one or more of the following reasons:

- Hydrologic conditions (e.g., vernal pools, riverine) necessary to support the special-status plant species are not present within the Project Areas;
- Edaphic conditions (soils, e.g., rocky outcrops, serpentinite) necessary to support the special-status plant species are not present within the Project Areas;
- Topographic conditions (e.g., montane) necessary to support the special-status plant species are not present within the Project Areas;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present within the Project Areas;
- Associated vegetation communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present within the Project Areas;
- The Project Area is geographically isolated (e.g., outside of required elevations, coastal environment) from the documented range of the special-status plant species.

The 11 special-status plant species with moderate to high potential to occur within the Project Areas are described below:

- **bent-flowered fiddleneck** (*Amsinckia lunaris*): Often serpentinite; gravelly slopes, grassland, openings in woodland, coastal bluff scrub, cismontane woodland, valley and foothill grassland
- **Brewer's milk-vetch** (*Astragalus breweri*): Often serpentinite, volcanic; chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)
- **big-scale balsamroot** (*Balsamorhiza macrolepis*): Habitat: slopes; Communities: valley grassland, foothill woodland; sometimes serpentine; chaparral cismontane woodland
- **small-flowered calycadenia** (*Calycadenia micrantha*): Sometimes serpentinite, dry, open rocky ridges, hillsides, talus, openings in scrub, woodland, roadsides, sparsely vegetated areas, chaparral, meadows and seeps (volcanic), valley and foothill grasslands
- **Pappose tarplant** (*Centromadia parryi ssp. Parryi*): Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic) often alkaline. Blooming period: June to October.
- **Cascade downingia** (*Downingia willamettensis*): Cismontane woodland (lake margins), valley and foothill grassland (lake margins), vernal pools
- **Mendocino tarplant** (*Hemizonia congesta ssp. Calyculata*): Clay soils, sometimes serpentinite, openings in woodland; cismontane woodland, valley and foothill grassland
- **Bolander's horkelia** (*Horkelia bolanderi*): Edges, vernally mesic areas: chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland
- **bristly leptosiphon** (*Leptosiphon acicularis*): Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland
- **Mt. Diablo cottonweed** (*Micropus amphiboles*): Rocky: broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland
- **beaked tracyina** (*Tracyina rostrata*): Open grassy meadows usually within oak woodland and grassland habitats. 150-795 m. Grassy slopes, chaparral, cismontane woodland, valley and foothill grassland

5.2.2 Special-status Animal species

A total of 42 special-status wildlife species have been documented within the vicinity of the Project Areas or deemed likely to occur by the previously mentioned databases. Please refer to Appendix B for a table of all special-status plant species which occur within the vicinity of the property and discussion of the potential for each species to occur within the Project Areas. Special-status species documented within a five-mile survey radius are depicted in Appendix A: CNDDB Map. Eighteen (18) special-status wildlife species have the moderate or high potential to occur within the Project Area. Of the 42 special-status species documented within the vicinity of the Study Areas, 24 special-status species are unlikely or have no potential to occur due to one or more of the following reasons:

- Aquatic Habitats (e.g., streams, rivers, vernal pools) necessary to support special-status wildlife species are not present within the Project Areas;

- Vegetation Habitats (e.g., forested area, riparian, grassland) that provide nesting and/or foraging resources necessary to support special-status wildlife species are not present within the Project Areas;
- Physical Structures and Vegetation (e.g., caves, old-growth trees) that provide nesting, cover, and/or foraging habitat necessary to support special-status wildlife species are not present within the Project Areas;
- Host Plants (e.g., *Cirsium sp.*) that provide larval and nectar resources necessary to support special-status wildlife species are not present within the Project Areas;
- Historic and Contemporary Disturbance (e.g., cattle grazing, agriculture) deter the presence of the special-status wildlife species from occupying the Project Areas;
- The Project Area is outside the documented nesting range of special-status wildlife species.

The eighteen (18) special-status wildlife species with moderate to high potential to occur within the Project Areas are described below.

- Birds:
    - **tricolored blackbird** (*Agelaius tricolor*): Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. Habitats include freshwater marsh, swamp, and wetland.
    - **oak titmouse** (*Baeolophus inornatus*): Oak titmice mostly live in warm, open, dry oak or oak-pine woodlands. Many will use scrub oaks or other brush as long as woodlands are nearby. Nests are built in tree cavities and are made of grass, moss, hair, and feathers. The female selects the nest site and is responsible for nest building, but the male accompanies her. Occasionally, Oak Titmice nest in stumps, fenceposts, pipes, eaves, or holes in riverbanks. They will also use nest boxes. (ECOS 2020).
    - **wrentit** (*Chamaea fosciata)*: The wrentit is a year-round resident in coastal scrub and chaparral along the west coast. Away from the coast it lives in dense shrublands with coyotebush, manzanita, California lilac, and blackberry thickets in foothills and desert regions of California. In northwestern California and northwestern Oregon, *C. fasciata* breeds in oak woodlands and mixed hardwood and evergreen forests. Wrentits build nests in many plants including California sage, coyotebush, blackberry, poison oak, coffeeberry, Douglas-fir, bush lupine, wild rose, valley oak, and wild grape. Nests are well hidden in dense vegetation anywhere from less than 1 foot to 9 feet above the ground. Wrentits tend to avoid areas with non-native plants such as eucalyptus and broom. (Cornell 2020).
    - **white-tailed kite** (*Elanus leucurus*): White-tailed kites are common in savannas, open woodlands, marshes, desert grasslands, partially cleared lands, and cultivated fields. They tend to avoid heavily grazed areas. The white-tailed kite eats mainly small mammals, but it also eats birds, lizards, and insects on rare occasions. White-tailed kites typically nest in the upper third of trees that may be 10–160 feet tall. These can be open-country trees growing in isolation, or at the edge of or within a forest (Cornell: All About Birds 2020).

- **prairie falcon** (*Falco mexicanus*): Prairie Falcons breed in open country throughout the west, wherever they can find *bluffs and cliffs* to nest on, including in alpine habitat to about 11,000 feet. Breeding habitats include grasslands, shrub-steppe desert, areas of mixed shrubs and grasslands, or alpine tundra that supports *abundant ground squirrel* or pika populations. Breeding birds sometimes forage in agricultural fields.
- **song sparrow** (*Melospiza melodia*): Song Sparrows are found in an enormous variety of open habitats, including tidal marshes, arctic grasslands, desert scrub, pinyon pine forests, aspen parklands, prairie shelterbelts, Pacific rain forest, chaparral, agricultural fields, overgrown pastures, freshwater marsh and lake edges, forest edges, and suburbs. You may also find Song Sparrows in deciduous or mixed woodlands. Song Sparrow pairs search for nest sites together. Nest sites are usually hidden in grasses or weeds, sometimes placed on the ground and occasionally as high as 15 feet; often near water. Not afraid of human habitation, Song Sparrows may nest close to houses, in flower beds. (Cornell 2020)
- **Nuttall's woodpecker** (*Picoides nuttallii*): Found primarily in oak woodlands, but also found in riparian woodlands. Tree nest cavity excavated by males with little assistance from females; male may roost in cavity as it nears completion. (ECOS 2020)
- **spotted towhee** (*Pipilo maculatus*): Spotted Towhees are closely tied to the distribution of suitable dense chaparral, in addition to woodlands containing well-developed leaf litter as well as humus sheltered by overhead branches and foliage. The female builds a ground nest into a depression beginning with a framework of dry leaves, stems, and bark strips. Nests are typically overhung with bushes, vines, or clumps of grass that provide shelter and protective screening. (ECOS 2020)
- **purple martin** (*Progne subis*): Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also, in human-made structures. Martins seldom use tree snags for nests in canyon bottoms or sites with dense vegetation at or above nest height. Distribution influenced by concentration of nesting cavities, abundant sources of aerial prey, therefore typically mesic, and low canopy cover at nest sites. Nest often located in tall, isolated tree/snag. Habitats include broadleaved upland forest and lower montane coniferous forest. Stand-replacing fire is the most common ecological means by which high quality martin habitat is created, snags and open terrain. (Airola and Williams 2008).

- Insects:
  - **obscure bumblebee** (*Bombus caliginosus*): The obscure bumble bee is a species of bumblebee native to the west coast of the United States, where its distribution extends from Washington through to Southern California. The workers are most often seen on Fabaceae, the legume family, while queens are most often seen on Ericaceae, the heath family, and males have been observed most often on Asteraceae, the aster family. Common plants visited by the workers include ceanothus, thistles, sweet peas, lupines, rhododendrons, Rubus, willows, and clovers.

- **western bumblebee** (*Bombus occidentalis*): Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground. Numerous plant species are pollinated.

- Mammals
  - **pallid bat** (*Antrozous pallidus*): *C. townsendii* is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.
  - **Townsend's big eared bat** (*Corynorhinus townsendii*): *C. townsendii* is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.
  - **little brown bat** (*Myotis lucifugus*): M. lucifigus is an ecological generalist amongst the forest/woodland bats, however, is usually associated with a permanent source of water. Roosts in large groups in caves, rock crevices, hot attics, buildings, tree cavities, and bat houses. Fidelity to physically stable day and night roost sites is strong and individuals return for many years. Also use dead and dying trees near water. Migrates to hibernation caves and mines. Typically absent from hot, dry lowlands. Risks: Removal of snags, alterations in riparian areas, timber harvest and forest recreation which causes disturbance. Also closure of cold mines used for hibernation. (WBWG 2020)
  - **fringed myotis** (*Myotis thysandodes*): *M. thysanodes* occupy a variety of habitats including pinyon-juniper, *valley and foothill grasslands* and hardwood-conifer habitats, however, is most common in drier woodlands. Roosting and maternity colony sites include caves, mines, buildings, crevices, and tree cavities/snags. Selection of roosting sites in trees has been found to be more a factor of tree size and degree of decay, versus tree species. Foraging occurs around streams, lakes, and ponds, and their diet consists of various arthropods (moths, beetles and spiders) captured in flight or gleaned from plants. Foraging often occurs close to vegetative canopy. (WBWG 2020)
  - **Yuma myotis** (*Myotis yumanensis*): Usually associated with a permanent source of water within lower and upper montane coniferous forest or riparian forest or woodland. Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices. Frequently occurs in anthropogenic structures. (WBWG 2020, CNDDB 2020)
  - **American badger** (*Taxidea taxus*): American badgers live in dry, open grasslands, fields, pastures, and meadows throughout the western United States, ranging southward through mountainous parts of Mexico and northward through Canada's central western provinces. They are found in a wide range of altitudes, from alpine meadows to below sea level in Death Valley.

- Reptiles
    - **western pond turtle** (*Emys marmorata*): *E. marmorata* are associated with permanent ponds, lakes, streams, stock ponds, marshes, seasonal wetlands, artificial areas including reservoirs or irrigation ditches, or permanent pools along intermittent streams in a wide variety of habitats. This species requires basking sites in the aquatic environment or upland, grassy openings with loose soil for nesting and overwintering. *Nest sites can be found from 100-500 meters from aquatic habitat.*

5.2.2 Special-status Biological Communities

Section 6.0: Assessment Summary and Recommendations

Twenty-nine (29) special-status plant and wildlife species have the potential to occur within the Survey Areas based on present habitat within and adjacent to the Project Areas. One sensitive biological community exists in the western corner of the property, a seasonal wet area, and occurs primarily on the neighboring parcel and will be buffered by a 100-foot protection area. No tree or shrub removal is proposed for any cannabis development or restoration projects within the Project Areas. Details of the sensitive resources are discussed in Section 5.1.2.

6.1 Biological Communities

Project Areas 1-3 all occur within a non-native/ruderal grassland and agricultural landscape. PA1 is currently fenced and being grazed by three horses. PA2 is currently mowed and likely used for hay production. PA3 contains a historic cultivation area. The remaining oak trees, predominantly from the historic oak woodlands which once dominated this valley, are present and actively used by the avian species in the area as is evident from the numerous old nests observed (Appendix D: Photos 18-20).

6.2 Special-status Species and Minimization of Any Potential Adverse Impacts

Eleven (11) special-status plants and eighteen (18) special-status wildlife species have the potential to occur within the Project Areas. Recommendations so that no significant negative impact is expected to occur to any special-status plant or animal species are discussed below, listed with each species in Appendix B, and CDFW protocols are also listed in Appendix B.

6.2.1 Special-status Plant Species

While the 11 special-status species have moderate to high potential to occur within the Project Areas, none were observed during the biological site assessment. As this survey took place in February, these results are not surprising as many plants have not sprouted yet this year. Given that the site is predominantly a ruderal grassland, it is highly possible this land does not support habitat for any of the special status plants know to occur in the area. The grassland habitat on site is highly altered and disturbed and includes a strong presence of non-native star thistle in the un-mowed areas. Additionally, the removal of the walnut orchard in the mid 1980's, including pulling the stumps and disking the fields, increased the likelihood of non-native species prospering here. However, to safeguard that no special-status plants are overlooked, and

therefore ensure no significant negative impact occur in relation to these projects, two follow-up surveys should be conducted.

Two (2) follow-up botany surveys are required to accomplish due diligence regarding the presence of any of the above-listed 11 sensitive plant species in the Project Areas. Nine (9) of special-status plants will be in flower, and/or near-flowering, during late April and/or early June and therefore detectable and identifiable if present. The Mendocino tarplant (*Hemizonia congesta* ssp. *Calyculata*) does not flower until July at the earliest, however with the 2 additional surveys, detection of this species prior to flowering should be tangible. It is also of interest to inspect the western corner during these visits; unique hydrophytic or mesic vegetation may have sprouted at the edge of the pool. The degree to which non-native grasses potentially dominate these pasturelands will also be discernable with these follow-up surveys.

6.2.2 Special-status Wildlife Species

Eighteen (18) special-status wildlife species which have a high or moderate potential to occur within the new developments include nine birds (9), two (2) – insects, and six (6) mammals. Two (2) of these special-status wildlife species were observed during the site visit on 24 February 2020: one (1) oak titmouse, one (1) spotted towhee. Additionally, one (1) unidentified bumblebee was also observed (Appendix A: Site Visit Map; Appendix X: Photo 21).

California Wildlife Habitat Relationships (CWHR)

CWHR Predicted Habitat Suitability is a dataset accessed through CNDDB BIOS Commercial/Spotted Owl Viewer that represents areas of suitable habitat within the species ranges based on California Wildlife Habitat Relationships (CWHR). "Habitat suitability ranks of Low (less than 0.34), Medium (0.34-0.66) and High (greater than 0.66) suitability are based on the mean expert opinion suitability value for each habitat type for breeding, foraging, and cover. The mean is the average of the reproduction, cover, and feeding scores, and can be interpreted as LOW (less than 0.34), MEDIUM (0.34-0.66), and HIGH (greater than 0.66) suitability. Note that habitat suitability ranks were developed based on habitat patch sizes >40 acres in size and are best interpreted for habitat patches >200 acres in size." (CDFW 2020).

Examination of the CWHR dataset was applied when: 1) the data is available for the species of concern, and 2) when there is a moderate to high potential for an animal to occur on or within 100 feet of the Study Areas. As with all models, these maps are not perfect, and do not predict the occurrence of an organism, it just examines whether the areas being examined in the biological assessment is habitat which *may* support a species of special concern. This information not only informs the landowner of what may occur on their property, but also assists the biologist when conducting a survey and creating management and mitigation strategies. For this report, CWHR data was assess and maps were produced for 8 species: American badger, fringed myotis, little brown myotis, pallid bat, prairie falcon, purple martin, Townsend's big-eared bat, and the white-tailed kite (See CWHR Maps in Appendix A).

Avifauna

Habitat which may support special-status plants and animals, as well as evidence of historical nesting bird activity, were surveyed for within the Project Areas and at minimum 100 feet surrounding the Project Areas.

The proposed site for PA1 is located on land which possess limited nesting habitat for bird species, and this habitat is suboptimal at best due to the lack of cover and active grazing by 3 horses. PA2 may have a greater likelihood of ground-nesting birds if the forbs and grasses are not kept mowed. Historic grass cup nests were observed along the fence lines, in the large trees, and on building ledges, and cavities were seen on the oak and walnut trees (Appendix A: Site Visit Map; Appendix D: Photos 18-20), however no historic nests were seen on the ground. As no trees or shrubs are proposed to be removed, and the grassland habitat is suboptimal, management of nesting bird activity should prove feasible within these Project Areas. If construction of cultivation areas is proposed during the bird breeding season (March 1 to August 31), it is possible nesting birds will be present in the development area, and very likely nesting birds will be in the immediate surrounding area; therefore pre-construction nesting bird surveys are required seven (7) days prior to initiation of any construction. If nesting birds are detected, construction should not commence until the young of the nest have fledged successfully. Alternatively, a buffer of adequate size could be provided to prevent disturbance of nesting birds if construction is pursued during breeding season. Buffer size, and whether a construction monitor would be needed, is typically species dependent. The appropriate buffer size should be determined in consultation with the California Department of Fish and Wildlife. No significant, adverse impacts will occur if nesting bird breeding surveys are conducted during March through August, or if construction is conducted outside of the breeding season.

Insects

An unknown bumblebee was observed during the site visit (See Appendix X: Site Visit Map and Appendix: D Photo 21) on 24 February 2020. Only three (3) plants were observed to be in bloom on the entire parcel: dandelion, milkmaids, and manzanita. None of these plants were in the immediate location of where the bee was observed, hence the bee did not land and was difficult to identify and photograph. No significant impact to bumblebee is expected to occur as a result of the proposed projects due to the extensive availability of foraging habitat on the immediate, surrounding landscape.

Mammals

Five (5) bat species have moderate or high potential to occur on the property, particularly because numerous older trees and outbuildings exist. Although no bat sign was observed at any of the outbuildings or mature trees examined, there are ample potential roost sites (Appendix D: Photos 18, 22-24). Bats are known to be sensitive to disturbance, hence pre-construction bat surveys shall be conducted to ensure that no bats have established roosts in any of the

outbuildings or trees 7-14 days prior to the initiation of construction. If roosts are detected, coordination with CDFW will occur. Following this protocol, and as no trees or buildings are to be removed or altered, no significant negative impact to any sensitive bat species is expected to occur as a result of the proposed cannabis cultivation within PA1 and PA2, or the removal of historic infrastructure at PA3.

Pre-construction surveys shall also include surveying for American badger. The extensive ground squirrel and mole population on site speaks to the availability of both a high density of prey and friable soils which may attract badgers. A qualified biologist shall survey for burrows 14-30 days prior to any construction activities within PA1 or PA2, or the removal of historic infrastructure at PA3. If any badger burrows are discovered, CDFW will be notified, determine if they are active, and if so proceed to discourage use by the badger. No significant negative impact is expected if these protocols are adhered to and followed.

Reptiles

Western pond turtles are known to use upland habitat as far as 500 meters from a water source for nesting (Thomson et al. 2016). Although the closest recorded turtle occurrences documented on CNDDB are at 5.5 miles southwest (from 1997) and 7.6 miles northwest (from 1999), the area around PA3 may prove to be western pond turtle nesting habitat should they occur in Clover Creek. These turtles typically initiate nesting in the spring/early summer and nestlings often overwinter in the nest for the first year (Thomson et al. 2016). Therefore, no significant negative impacts on *Emys marmorata* is expected to occur as a qualified biologist shall survey PA3 and the surrounding area prior to removal of historic infrastructure at PA3.

6.3 Wildlife Corridors

No change to nesting, foraging or wintering habitat for migratory birds is expected to occur as a result of the proposed project activities. Additionally, no significant impacts to migratory corridors for amphibian, aquatic, avian, mammalian, or reptilian species is expected to occur as a result of the proposed project activities. This is greatly influenced by the property owner not wanting to remove any trees or shrubs in order to create the proposed cultivation areas.

6.4 Critical Habitat

No critical habitat for federal or state-listed species occurs within SA1, SA2, or SA3 or the entire parcel. Additionally, no critical habitat for any federal or state-listed species occurs within a five-mile radius of the property. Maps are included for the three species with designated critical habitat to exhibit location in relation to the property (See Appendix A).

Section 7.0: References

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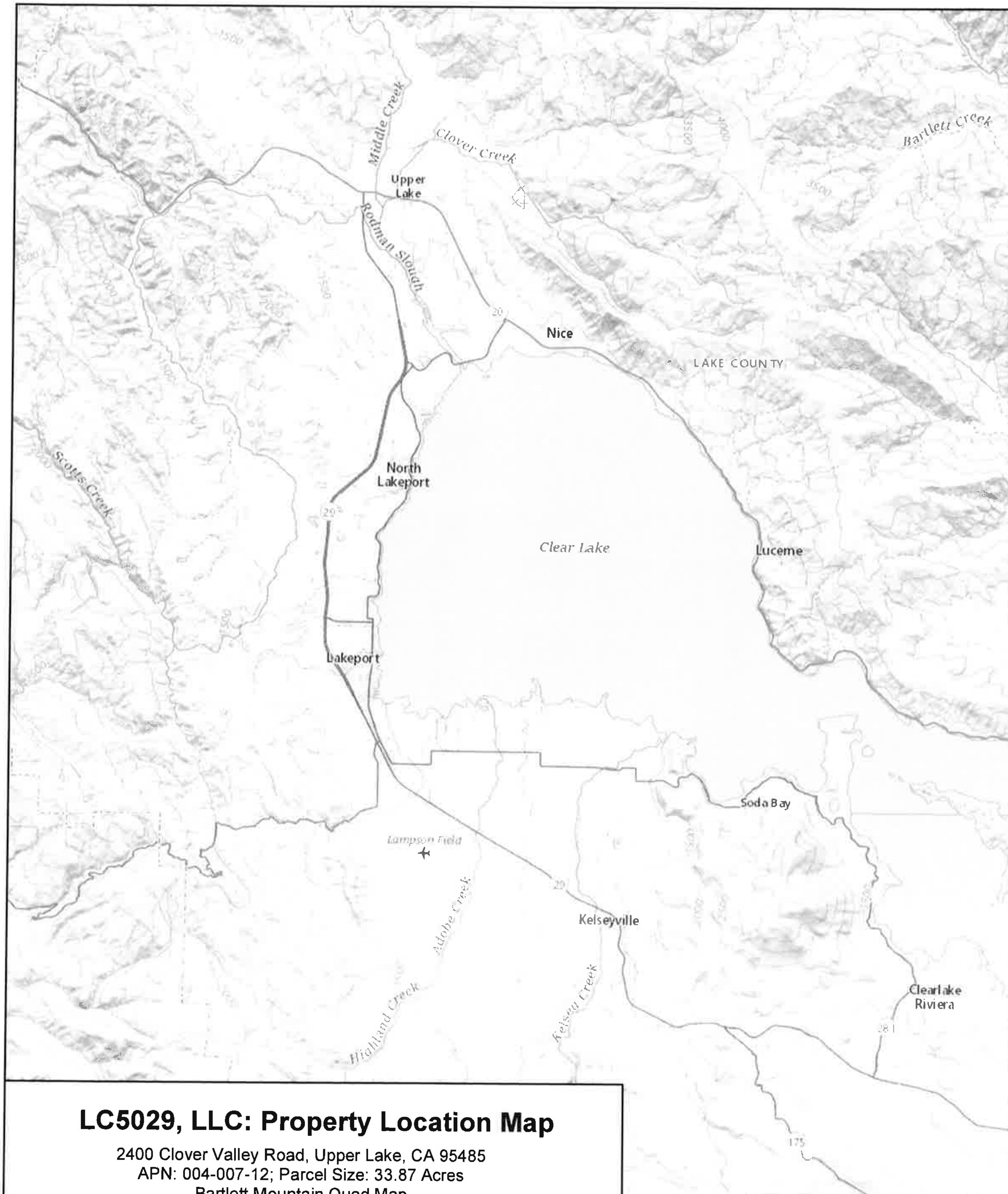
Appendix A: Supporting Figures (Maps)



LC5029, LLC: Property Location Map

2400 Clover Valley Road, Upper Lake, CA 95485
APN: 004-007-12; Parcel Size: 33.87 Acres
Bartlett Mountain Quad Map
T15N R9W S9 (08 March 2020)

JEN HAWLEY
BIO CONSULTING

0 0.75 1.5 3 Miles

l Map: National Boun
Information System,
se, National Structur
bal Ecosystems; U.S
Earth Data; U.S. De
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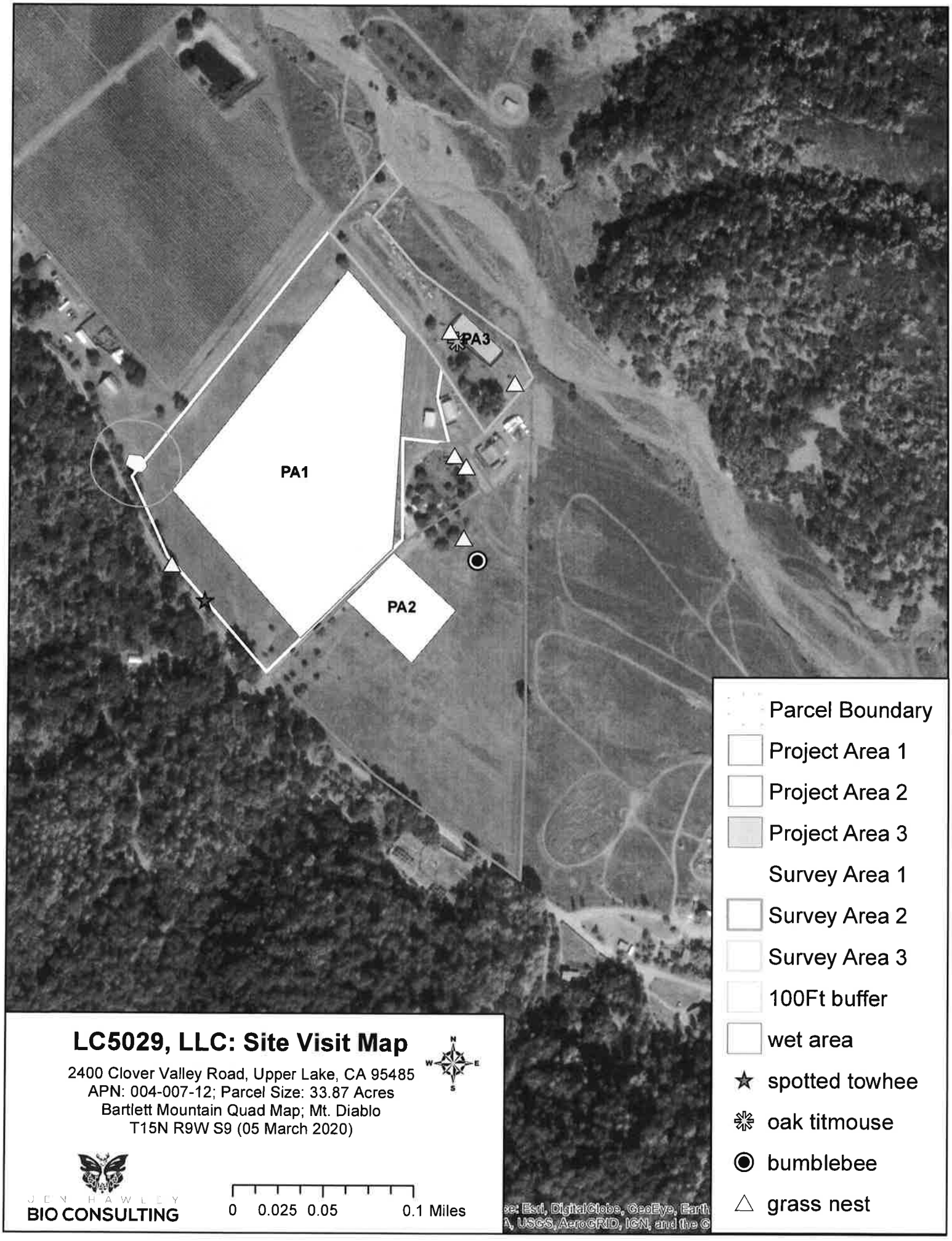
el. Data refreshed Au

Legend

APN: 004-007-12

LC5029, LLC: Property Aerial Map

2400 Clover Valley Road, Upper Lake, CA 95485
APN: 004-007-12; Parcel Size: 33.87 Acres
Bartlett Mountain Quad Map; Mt. Diablo
T15N R9W S9 (05 March 2020)



LC5029, LLC: Site Visit Map

2400 Clover Valley Road, Upper Lake, CA 95485
APN: 004-007-12; Parcel Size: 33.87 Acres
Bartlett Mountain Quad Map; Mt. Diablo
T15N R9W S9 (05 March 2020)

JEN HAWLEY
BIO CONSULTING

Soil Map—Lake County, California
(004-007-12)

Map Scale: 1:3,550 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County, California
Survey Area Data: Version 16, Sep 16, 2019

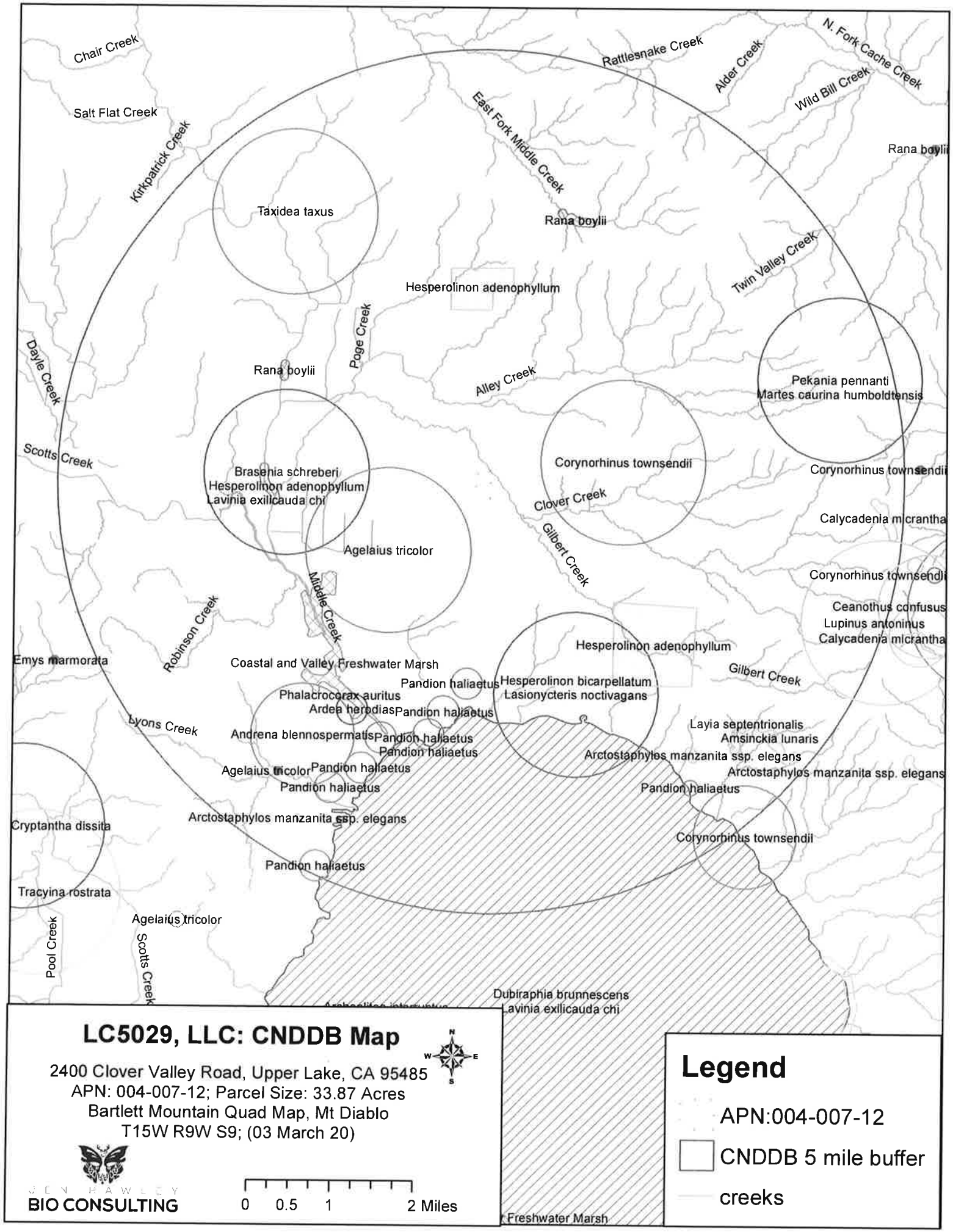
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 18, 2016—Nov 4, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
233	Still loam, stratified substratum	6.2	19.3%
234	Still gravelly loam	23.2	72.0%
249	Xerofluvents-Riverwash complex	2.8	8.7%
Totals for Area of Interest		**32.2**	**100.0%**



LC5029, LLC: CNDDB Map

2400 Clover Valley Road, Upper Lake, CA 95485
APN: 004-007-12; Parcel Size: 33.87 Acres
Bartlett Mountain Quad Map, Mt Diablo
T15W R9W S9; (03 March 20)

JEN HAWLEY
BIO CONSULTING

0 0.5 1 2 Miles

Legend

- APN:004-007-12
- CNDDB 5 mile buffer
- creeks

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
fringed myotis *Myotis thysanodes*	BLM: S IUCN: LC USFS: S WBWG: H	*M. thysanodes* occupy a variety of habitats including pinyon-juniper, *valley and foothill grasslands* and hardwood-conifer habitats, however is most common in drier woodlands. Roosting and maternity colony sites include caves, mines, buildings, crevices, and tree cavities/snags. Selection of roosting sites in trees has been found to be more a factor of tree size and degree of decay, versus tree species. Foraging occurs around streams, lakes, and ponds, and their diet consists of various arthropods (moths, beetles and spiders) captured in flight or gleaned from plants. Foraging often occurs close to vegetative canopy. (WBWG 2020)	**Moderate potential.** Buildings and mature trees that support cavities or exfoliating bark may provide roosting habitat. This species may occasionally forage over the Study Areas.	A qualified biologist shall survey all buildings and large trees within 100 feet of study area boundary for roosting bats or bat sign. If an active roost is discovered, an appropriate buffer will be discussed with CDFW. As no buildings or trees are proposed to be removed, no significant negative impact is expected.
Yuma myotis *Myotis yumanensis*	BLM: S IUCN: LC WBWG: LM	Usually associated with a permanent source of water within lower and upper montane coniferous forest or riparian forest or woodland. Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices. Frequently occurs in anthroprogenic structures. (WBWG 2020, CNDDB 2020)	**Unlikely.** No forest or woodlands occur within any study area. This species may occasionally forage over the Study Areas if it occurs nearby.	Habitat to support this species is not present in Project Areas. No further recommendations for this species.
fisher – West Coast DPS *Pekani pennanti*	FPT ST: TH BLM: S CDFW: SSC USFS: S	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Prefers North Coast coniferous forest, old growth, and riparian forest.	**No Potential.** No coniferous forest, old growth, or areas with large trees and high canopy cover occurs within the parcel.	Habitat to support this species is not present in Project Areas. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
American badger *Taxidea taxus*	CDFW: SSC IUCN: LC	American badgers live in dry, open grasslands, fields, pastures, and meadows throughout the western United States, ranging southward through mountainous parts of Mexico and northward through Canada's central western provinces. They are found in a wide range of altitudes, from alpine meadows to below sea level in Death Valley. Badgers have long foreclaws and are excellent diggers. Badgers use their claws to excavate dens for protection, sleeping sites, food storage, places to give birth, and as focal areas for foraging. Entrances to their dens generally have a sideways "D" shaped entrance and the excavated soil is piled outside. Badgers are carnivores and are well-adapted to preying on burrowing rodents, including ground squirrels, but they will also prey on other non-burrowing mammals. Frequently reuse old burrows, although some may dig a new den each night, especially in summer (Messick and Hornocker 1981). Needs sufficient food, friable soils and open, uncultivated ground.	**Moderate Potential.** CWHR (CNDDB 2020) rates half of property as having high potential for badger presence. High density of ground squirrels and moles identifies soils which are easily excavated and high density of potential prey. CNDDB polygon maps *T. taxus* occurring 2.84 miles northwest, however the specific date of this collection is unknown.	No badger burrows detected during February site visit; however, a qualified biologist shall survey PA1 and PA2 14-30 days prior to any development activities.
Mollusks				
Oregon floater *Anodonta oregonensis*	CDFW: SSC	Oregon floater prefer low-gradient and low elevation rivers, lakes, and reservoirs, often overlapping in habitat with *A. californiensis.* This species requires a host fish, often Coho Salmon (*Oncorhynchus kisutch*), for the immature stage of their life cycle.	**No Potential**. No fish bearing aquatic habitat in any of the Project Areas.	Habitat to support this species is not present in Project Areas. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
western ridged mussel *Gonidea angulata*	CDFW: SSC	Primarily creeks & rivers & less often lakes. Originally in most of state, now extirpated from Central & Southern Calif.	**No Potential.** No creeks, rivers or lakes occur in any of the Project Areas	Habitat to support this species is not present in Project Areas. No further recommendations for this species.
scale lanx *Lanx klamathensis*	CDFW: SSC	Upper Klamath Lake, Tule Lake & Lower Klamath Lake system.	**No Potential.** No lakes occur in any of the Project Areas	Habitat to support this species is not present in Project Areas. No further recommendations for this species.
western pearlshell *Margaritifera falcata*	CDFW: SSC	Western pearlshell populations occur in cold, clear, fish bearing streams and rivers, often in reaches having fast currents and coarse substrate. A fish host is required for the larval life stage. This species is intolerant of heavy nutrient loads, siltation, and water pollution.	**No Potential.** No Class I (fish bearing) streams occur within the Project Areas. Therefore, no host species occur to support a population of *M. falcata*.	Habitat to support this species is not present in Project Areas. No further recommendations for this species.
Reptiles				
western pond turtle *Emys marmorata*	BLM: S CDFW: SSC IUCN: VU USFS: S	*E. marmorata* are associated with permanent ponds, lakes, streams, stock ponds, marshes, seasonal wetlands, artificial areas including reservoirs or irrigation ditches, or permanent pools along intermittent streams in a wide variety of habitats. This species requires basking sites in the aquatic environment or upland, grassy openings with loose soil for nesting and overwintering. *Nest sites can be found from 100-500 meters from aquatic habitat.*	**Moderate Potential.** Clover Creek occurs at the northern edge of the property. Closest CNDDB records are over 5 miles away and 20 years old.	It is recommended to survey the habitat surrounding PA3 prior to dismantling the historic cultivation area. Due to the proximity to Clover Creek, it is very possible a turtle could choose to nest in this site.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Aquatic and Terrestrial Communities of Concern				
Clear Lake Drainage Cyprinid/Catostomid Stream		Aquatic/Mesic Habitat	**No Potential.** All areas of development are greater than 100 feet from Clover Creek and small, seasonal wet area on west boundary.	Habitat to support this aquatic community is not present in any Project Area. No further recommendations.
Clear Lake Drainage Seasonal Lakefish Spawning Stream		Aquatic/Mesic Habitat	**No Potential.** All areas of development are greater than 100 feet from Clover Creek and small, seasonal wet area on west boundary.	Habitat to support this aquatic community is not present in any Project Area. No further recommendations.
Coastal and Valley Freshwater Marsh		Aquatic/Mesic Habitat	**No Potential.** All areas of development are greater than 100 feet from Clover Creek and small, seasonal wet area on west boundary.	Habitat to support this aquatic community is not present in any Project Area. No further recommendations.
Great Valley Mixed Riparian Forest		Aquatic/Mesic Habitat	**No Potential.** All areas of development are greater than 100 feet from Clover Creek and small, seasonal wet area on west boundary.	Habitat to support this aquatic community is not present in any Project Area. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Amsinckia lunaris bent-flowered fiddleneck	1B.2	Often serpentinite; gravelly slopes, grassland, openings in woodland, coastal bluff scrub, cismontane woodland, valley and foothill grassland	**Moderate Potential.** Soils are gravelly and site occurs in valley.	Conduct a botany survey in early June 2020. Blooming Period: March-June
Anisocarpus scabridus scabrid alpine tarplant	1B.3	Upper montane coniferous forest (metamorphic, rocky)	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Antirrhinum subcordatum dimorphic snapdragon	4.3	Chaparral, lower montane coniferous forest, sometimes serpentinite	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Antirrhinum virga twig-like snapdragon	4.3	Rocky, openings, often serpentinite; chaparral and lower montane coniferous forest.	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Arctostaphylos malloryi Mallory's manzanita	4.3	Volcanic, chaparral, lower montane coniferous forest	**Unlikely.** Only 4 manzanita plants observed (*A. m. glaucacescens*) and no volcanic soils or chaparral present.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Arctostaphylos manzanita ssp. elegans Konocti manzanita	1B.3	Volcanic, chaparral, cismontane woodland, foothill woodland, lower montane coniferous forest	**Unlikely.** Only 4 manzanita plants observed (*A. m. glaucacescens*) and no volcanic soils, chaparral, or woodland present.	No further recommendations for this species.
Asclepias solanoana serpentine milkweed	4.2	Strict endemic on serpentine soils; Chaparral, Foothill Woodland, Yellow Pine Forest	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Astragalus breweri Brewer's milk-vetch	4.2	Often serpentinite, volcanic; chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)	**Moderate Potential.** No serpentine or volcanic soils present, however open, gravelly valley grassland.	Conduct a botany survey in early June 2020. Blooming Period: April-June.
Astragalus clevelandii Cleveland's milk-vetch	4.3	Strict endemic on serpentine soils: occurs usually in wetlands, occasionally in non-wetlands; mountains, valleys and coast	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Balsamorhiza macrolepis big-scale balsamroot	1B.2	Habitat: slopes; Communities: valley grassland, foothill woodland; sometimes serpentine; chaparral cismontane woodland	**Moderate Potential.** No slopes, no serpentine, however valley grassland.	Conduct a botany survey in early June 2020. Blooming Period: March-June
Boechera ultraalsa Snow Mountain rockcress	1B.1	Upper montane coniferous forest (rocky)	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Arctostaphylos manzanita ssp. elegans Konocti manzanita	1B.3	Volcanic, chaparral, cismontane woodland, foothill woodland, lower montane coniferous forest	**Unlikely.** Only 4 manzanita plants observed (*A. m. glaucacescens*) and no volcanic soils, chaparral, or woodland present.	No further recommendations for this species.
Asclepias solanoana serpentine milkweed	4.2	Strict endemic on serpentine soils; Chaparral, Foothill Woodland, Yellow Pine Forest	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Astragalus breweri Brewer's milk-vetch	4.2	Often serpentinite, volcanic; chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)	**Moderate Potential.** No serpentine or volcanic soils present, however open, gravelly valley grassland.	Conduct a botany survey in early June 2020. Blooming Period: April-June.
Astragalus clevelandii Cleveland's milk-vetch	4.3	Strict endemic on serpentine soils: occurs usually in wetlands, occasionally in non-wetlands; mountains, valleys and coast	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Balsamorhiza macrolepis big-scale balsamroot	1B.2	Habitat: slopes; Communities: valley grassland, foothill woodland; sometimes serpentine; chaparral cismontane woodland	**Moderate Potential.** No slopes, no serpentine, however valley grassland.	Conduct a botany survey in early June 2020. Blooming Period: March-June
Boechera ultraalsa Snow Mountain rockcress	1B.1	Upper montane coniferous forest (rocky)	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Botrychium crenulatum scalloped moonwort	2B.2	Bogs and fens: lower montane coniferous forest, meadows and seeps, marshes and swamps (freshwater), upper montane coniferous forest	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Brasenia schreberi watershield	2B.3	Marshes and swamps; freshwater	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Brodiaea rosea Indian Valley brodiaea	3.1 SE	Strict serpentine endemic: mountains, valleys and coast: occurs usually in wetlands, occasionally in non-wetlands: Communities: Chaparral, Valley Grassland, Closed-cone Pine Forest, wetland-riparian	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Calycadenia micrantha small-flowered calycadenia	1B.2	Sometimes serpentinite, dry, open rocky ridges, hillsides, talus, openings in scrub, woodland, roadsides, sparsely vegetated areas, chaparral, meadows and seeps (volcanic), valley and foothill grasslands. Blooming period: June thru September	**Moderate Potential.** No volcanic or serpentine soils, however rocky, dry, open, valley, and recorded 4.68 east	Conduct follow up survey during blooming period in early June 2020.
Calyptridium quadripetalum four-petaled pussypaws	4.3	sandy or gravelly, usually serpentinite, chaparral, lower montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Calystegia collina ssp. Oxyphylla Mt. Saint Helena morning-glory	4.2	Strict serpentine endemic/serpentinite; chaparral, lower montane coniferous forest, valley and foothill grassland	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Carex comosa bristly sedge	2B.1	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Carex hystericina porcupine sedge	2B.1	Occurs in wetland, riparian, streambanks, Communities: freshwater wetlands, wetland-riparian, marshes, swamps	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Ceanothus confuses Rincon Ridge ceanothus	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland; volcanic or serpentinite	**Unlikely.** Study Areas occur within open ruderal grasslands and no blooming ceanothus was observed during the February site visit. Soils are not volcanic or serpentinite.	Habitat to support this species is not present in any study area. No further recommendations for this species.
Centromadia parryi ssp. parryi Pappose tarplant	1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic) often alkaline. Blooming period: June to October.	**Moderate Potential.** Seasonally wet area in west corner of property.	Conduct a follow up survey in early June 2020.
Clarkia gracilis ssp. Tracyi Tracy's clarkia	4.2	Serpentinite; chaparral – usually openings	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Collomia diversifolia serpentine collomia	4.3	Strict serpentine endemic; chaparral, foothill woodland	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Cryptantha dissita serpentine cryptantha	1B.2	Serpentinite; chaparral	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Cuscuta jepsonii Jepson's dodder	1B.2	Host spp. are Ceanothus diversifolius and C. prostrates: broadleafed upland forest, lower montane coniferous forest, upper montane coniferous forest	**No Potential.** The host species do not occur on any of the Study Areas, nor does any forest occur.	Habitat to support this species is not present in any study area. No further recommendations for this species.
Downingia willamettensis Cascade downingia	2B.2	Cismontane woodland (lake margins), Valley and foothill grassland (lake margins), Vernal pools. Blooming period June-july	**Moderate Potential.** Seasonally wet area in west corner of property.	Conduct a follow up survey in early June 2020.
Epilobium nivium Snow Mountain willowherb	1B.2	Rocky: chaparral, upper montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Eriastrum tracyi Tracy's eriastrum	3.2	Volcanic soils; Chaparral; Cismontane woodland; Valley and foothill grassland	**Unlikely.** Soils within the Study Areas are not volcanic.	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Erigeron greenei Greene's narrow-leaved daisy	1B.2	Serpentinite or volcanic chaparral	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Eriogonum nervulosum Snow Mountain buckwheat	1B.2	Strict serpentine endemic; chaparral	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Eriogonum tripodum tripod buckwheat	4.2	Strong serpentine affinity; chaparral and foothill woodlands	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Eriogonum umbellatum var. bahiiforme bay buckwheat	4.2	rocky, often serpentinite: cismontane woodland, lower montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Erythranthe nudata bare monkeyflower	4.3	Strict serpentine endemic; occurs in wetlands and seeps in chaparral, foothill woodland or wetland-riparian communities	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Erythronium helenae St. Helena fawn lily	4.2	Strong serpentine affinity; chaparral, valley grasslands, foothill woodlands, and yellow pine forests	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Frittillaria glauca Siskiyou fritillaria	4.2	Serpentinite, talus slopes: alpine boulder and rock field, subalpine coniferous forest, upper montane coniferous forest	**No Potential.** Study Areas occur on valley floor, not montane habitat.	Habitat to support this species is not present in any study area. No further recommendations for this species.
Fritillaria purdyi Purdy's fritillary	4.3	Usually serpentinite, chaparral, cismontane woodland, lower montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Grimmia torenii Toren's grimmia	1B.3	Openings, rocky, boulder and rock walls, carbonate, volcanic: chaparral, cismontane woodland, lower montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Hackelia amethystina amethyst stickseed	4.3	meadows, openings, disturbed: yellow pine forest, lower montane coniferous forest, meadows and seeps, upper montane coniferous forest	**Unlikely**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Harmonia stebbinsii Stebbins' harmonia	1B.2	Serpentinite: chaparral, Lower montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Helianthus exilis serpentine sunflower	4.2	Serpentinite seeps in chaparral and cismontane woodland	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Hemizonia congesta ssp. Calyculata Mendocino tarplant	4.3	Clay soils, sometimes serpentinite, openings in woodland; cismontane woodland, valley and foothill grassland. Blooming Period: July to November	**Moderate Potential.** Clay soils on site. Calflora lists 1933 observation 2 miles NE of Upper Lake in 1933	Examine Project Areas thoroughly during follow up botany survey in April and June for any Hemizonia plants. If discovered, manage plant until bloom permits correct identification, if not possible pre-flowering.
Hesperolinon adenophyllum glandular western flax	1B.2	Strict serpentine endemic; chaparral, valley grassland foothill woodland	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Hesperolinon bicarpellatum two-carpellate western flax	1B.2	Strict serpentine endemic; chaparral,	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Hesperolinon drymarioides drymaria-like western flax	1B.2	Strict serpentine endemic: chaparral, valley grassland, foothill woodland, closed-cone pine forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Horkelia bolanderi Bolander's horkelia	1B.2	Edges, vernally mesic areas: chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland	**Moderate Potential.** Seasonally wet area in west corner of Survey Area 1.	Conduct follow up botany survey in early June 2020.
Iliamna bakeri Baker's globe mallow	4.2	Chaparral, Great Basin scrub, lower montane coniferous forest (openings), pinyon and juniper woodland volcanic, often in burned areas	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Layia septentrionalis Colusa layia	1B.2	sandy, serpentinite: Chaparral, Cismontane woodland, Valley and foothill grassland	**Unlikely.** Soil on site is rocky and no serpentine is present.	Habitat to support this species is not present in any study area. No further recommendations for this species.
Leptosiphon acicularis bristly leptosiphon	4.2	Grassy area, chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Blooming Period: April to May/July	**Moderate Potential.**	Conduct follow up botany survey in late April and early June 2020.
Leptosiphon latisectus broad-lobed leptosiphon	4.3	Broadleafed upland forest, cismontane woodland, open or partially shaded grassy slopes; Blooming Period: April to June	**Unlikely.** Study Areas include open, grassy areas, however not on slopes or within forest or woodland.	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Leptosiphon rattanii Rattan's leptosiphon	4.3	Foothill woodland, yellow pine forest, lower montane coniferous forest: rocky or gravelly	**No Potential.** Although soil is rocky in the Study Areas; the parcel is not forested.	Habitat to support this species is not present in any study area. No further recommendations for this species.
Lupinus antoninus Anthony Peak lupine	1B.2	Rocky substrate; lodgepole pine forest, red fir forest, yellow pine forest (upper and lower montane coniferous forest)	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Lupinus sericatus Cobb Mountain lupine	1B.2	Chaparral, Foothill Woodland, Yellow Pine Forest	**No Potential.** The Study Areas, as well as the entire parcel, does not contain chaparral or forest.	Habitat to support this species is not present in any study area. No further recommendations for this species.
Micropus amphibolus Mt. Diablo cottonweed	3.2	Rocky: broadleafed upland forest,chaparral, cismontane woodland, valley and foothill grassland. Bloomin Period March to May	**Moderate Potential.** Property is very rocky, valley grassland.	Conduct follow up botany survey in late April and early June 2020.
Plagiobothrys lithocaryus Mayacamas popcornflower	1A	Mesic: chaparral, cismontane woodland, valley and foothill grassland	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Potamogeton zosteriformis eel-grass pondweed	1B.1	Wetlands; freshwater marsh, wetland riparian areas	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Ranunculus lobbii Lobb's aquatic buttercup	4.2	Mesic, wetland-riparian: wetlands and vernal pools, valley grassland, foothill woodland, redwood forest, freshwater wetlands	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Sidalcea oregana ssp. hydrophilia marsh checkerbloom	1B.2	Occurs usually in wetlands, occasionally in non-wetlands, riparian and meadows: mixed evergreen forest, yellow pine forest, wetland-riparian	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Stipa lemmonii var. pubescens pubescent needle grass	3.2	Serpentinite: chaparral, lower montane coniferous forest	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RECOMMENDATIONS
Floral Species of Concern				
Streptanthus hesperidis green jewelflower	1B.2	Strict serpentine endemic; rocky; chaparral openings; foothill woodlands	**No Potential**	Habitat to support this species is not present in any study area. No further recommendations for this species.
Tracyina rostrata beaked tracyina	1B.2	Open grassy meadows usually within oak woodland and grassland habitats. 150-795 m. Grassy slopes, chaparral, cismontane woodland, valley and foothill grassland. Blooming Period: May to June	**Moderate Potential.** Historic vegetation likely ideal habitat.	Conduct follow up botany survey in late April and early June 2020.

Abbreviation	Organization
FC	Federal Candidate
FE	Federal Endangered
FT	Federal Threatened
FPE	Federally Proposed for listing as Endangered
FPT	Federally Proposed for listing as Threatened
FPD	Federally Proposed for delisting
SC	State Candidate
SE	State Endangered
SR	State Rare
ST	State Threatened
SCE	State Candidate for listing as Endangered
SCT	State Candidate for listing as Threatened
SCD	State Candidate for delisting
Rank 1A	CRPR Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2B	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)

Potential to Occur:
No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:
Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.
Not Present. Species is assumed to not be present due to a lack of key habitat components.
Not Observed. Species was not observed during surveys.

Abbreviation	Organization
AFS_EN	American Fisheries Society - Endangered
AFS_TH	American Fisheries Society - Threatened
AFS_VU	American Fisheries Society – Vulnerable
BLM_S	Bureau of Land Management – Sensitive
BCC	USFWS Birds of Conservation Concern
CDF_S	Calif. Dept. of Forestry & Fire Protection – Sensitive
CDFW_SSC	Calif. Dept. of Fish & Wildlife – Species of Special Concern
CDFW_FP	Calif. Dept. of Fish & Wildlife – Fully Protected
CDFW_WL	Calif. Dept. of Fish & Wildlife – Watch List
IUCN_CR	IUCN – Critically Endangered
IUCN_EN	IUCN – Endangered
IUCN_NT	IUCN – Near Threatened
IUCN_VU	IUCN – Vulnerable
IUCN_LC	IUCN – Least Concern
IUCN_DD	IUCN – Data Deficient
IUCN_CD	IUCN – Conservation Dependent
NABCI_RWL	North American Bird Conservation Initiative – Red Watch List
NABCI_YWL	North American Bird Conservation Initiative – Yellow Watch List
NMFS_SC	National Marine Fisheries Service – Species of Concern
USFS_S	U. S. Forest Service - Sensitive
USFWS_BCC	U. S. Fish & Wildlife Service Birds of Conservation Concern
WBWG_H	Western Bat Working Group – High Priority
WBWG_MH	Western Bat Working Group – Medium-High Priority
WBWG_M	Western Bat Working Group – Medium Priority
WBWG_LM	Western Bat Working Group – Low-Medium Priority
Xerces: CI	Xerces Society – Critically Imperiled
Xerces: IM	Xerces Society – Imperiled
Xerces: VU	Xerces Society – Vulnerable
Xerces: DD	Xerces Society – Data Deficient

CDFW Conservation Measures and Pre-construction Guidelines

Conservation Measure	Description
Bats	**Special-status bats**
BAT-1: Avoid and minimize loss of species	a. If suitable roosting habitat for special-status bats will be affected by Project construction (e.g., removal or buildings, modification of bridges), a qualified wildlife biologist will conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., Anabat, etc.). Visual surveys will include trees within 0.25 mile of Project construction activities. The type of survey will depend on the condition of the potential roosting habitat. If no bat roosts are found, then no further study is required. b. If evidence of bat use is observed, the number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts. c. If roosts are determined to be present and must be removed, the bats will be excluded from the roosting site before the facility is removed. A mitigation program addressing compensation, exclusion methods, and roost removal procedures will be developed prior to implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).
Conservation Measure	**Description**
BAD	**American Badger**
BAD-1: Avoid and minimize loss of species	a. No less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, CDFW will conduct a survey to determine if American badger den sites are present at the site. If dens are found, they will be monitored for badger activity. If CDFW determines that dens may be active, the

	entrances of the dens will be blocked with soil, sticks, and debris for three to five days to discourage the use of these dens prior to project disturbance activities. The den entrances will be blocked to an incrementally greater degree over the 3 to 5-day period. After the qualified CDFW biologist determines that badgers have stopped using active dens, the dens will be hand-excavated with a shovel to prevent re-use during construction. No disturbance of active dens will take place when cubs may be present and dependent on parental care, as determined by a qualified CDFW biologist
Conservation Measure	**Description**
MTBA	**Other birds protected by the Migratory Bird Treaty Act**
MBTA-1. Avoid and minimize effects to species	a. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or ground disturbance during the typical breeding season (February 1 to September 1), if species covered under the Migratory Bird Treaty Act and Fish and Game Code sections 3503, 3503.5, and 3513 are determined to be present. b. If Project activities must be conducted during the nesting bird season, CDFW will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, CDFW will establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified CDFW biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.

Appendix C: List of Species Observed

SCIENTIFIC NAME	COMMON NAME
Flora	
Archtostophylos manzanita sbsp. glaucescens	whiteleaf manzanita
Achillea millefolium	yarrow
Agrostis sp.	bent grass
Asteraceae sp.	last year's flower; NOT big-scale balsamroot
Avena sp.	wild oat
Baccharis pilularis	coyote brush
Bromus sp.	brome grass
Cardamine oligosperma	bitter cress
Centaurea solstitialis	star thistle
Cercis occidentalis	western redbud
Claytonia perfoliata	miner's lettuce
Croton setiger	turkey mullein
Cynosurus echinatus	dogtail grass
Elymous glaucus	blue wildrye
Elymus caput	medusa head grass
Epilobium sp.	willow herb
Eriodictyon californicum	yerba santa
Erodium cicutarium	coastal heron's bill
Eschscholzia californica	California poppy
Geranium molle	crane's bill geranium
Heteromeles arbutifolia	toyon
Hirschfeldia incana	Mediterranean hoary mustard
Juglans californica	black walnut root stock, English walnut
Madia sativa	coast tarweed
Marrubrum vulgare	horehound
Marsilla vestita	waterclover
Martricaria discoidea	pineapple weed
Navarretia sp.	navarretia
Nemophila sp.	nemophila
Phoradendron sp.	mistletoe
Pinus sabiniana	gray pine
Plantago lanceolata	plantain
Quercus garryana	Oregon white oak
Quercus kelloggii	black oak
Quercus lobata	valley oak
Ribes sp.	gooseberry
Rubus armeniacus	Himalayan blackberry
Rumex sp.	dock
Silybum marianum	milk thistle
Taraxacum officianale	common dandelion
Torilis arvensis	field hedge parsley
Verbascum blattaria	moth mullein
Viscia sp.	vetch

SCIENTIFIC NAME	COMMON NAME
Amphibians and Reptiles	
Pseudacris regilla	pacific tree frog
Avifauna	
Agelaius phoeniceus	redwing blackbird
Baeolophus inornatus	oak titmouse
Callipepla californica	California quail
Cathartes aura	turkey vulture
Cyanocitta stelleri	Stellar's jay
Euphagus cyanocephalus	Brewer's blackbird
Haemorhous mexicanus	house finch
Junco hyemalis	dark-eyed junco
Melanerpes formicivorus	acorn woodpecker
Melozone crissalis	California towhee
Molothrus ater	brown-headed cowbird
Pipilo maculatus	spotted towhee
Setophaga coronata	yellow-rumped warbler
Sialia mexicana	western bluebird
Streptopelia decaocto	Eurasian collored-dove
Sturnus vulgaris	European starling
Zonotrichia atricapilla	golden-crowned sparrow
Crustaceans	
Unknown crayfish (sign only)	crayfish "chimneys" in mud
Insects	
Unknown bumblebee	Unidentified bumblebee (See Photos: XX)
Mammals	
Otospermophilus beecheyi	California ground squirrel – extensive burrow systems present
Procyon lotor (tracks only)	racoon
Rodentia sp. (sign only)	burrows and tunnels (likely gopher)
Unknow scat	(See Photos: XX)

Appendix D: Representative Photographs of the Project Areas

Photo 1: Survey Area 1

Supplemental information: Looking northeast from Clover Valley Road across Project Area 1

Date: 24 February 2020

Photo 2: Project Area 1

Supplemental information: Looking west across Project Area 1 from driveway. Note heavily grazed pasture.

Date: 24 February 2020

Photo 3: Project Area 1

Supplemental information: Looking south across proposed project area. Note remnant walnut trees from historic orchard and adjacent forest.

Date: 24 February 2020

Photo 4: Project Area 1

Supplemental information: Within Project Area 1 looking east. Note well house and adjacent building; these outbuildings are potential bat roost locations.

Date: 24 February 2020

Photo 5: Project Area 2

Supplemental information:
Looking east from driveway.

Date: 24 February 2020

Photo 6: Project Area 2

Supplemental information:
Looking north/northeast from PA2

Date: 24 February 2020

Photo 7: Survey Area 2 – Star Thistle

Supplemental information: Looking west from eastern edge of Survey Area 2.

Date: 24 February 2020

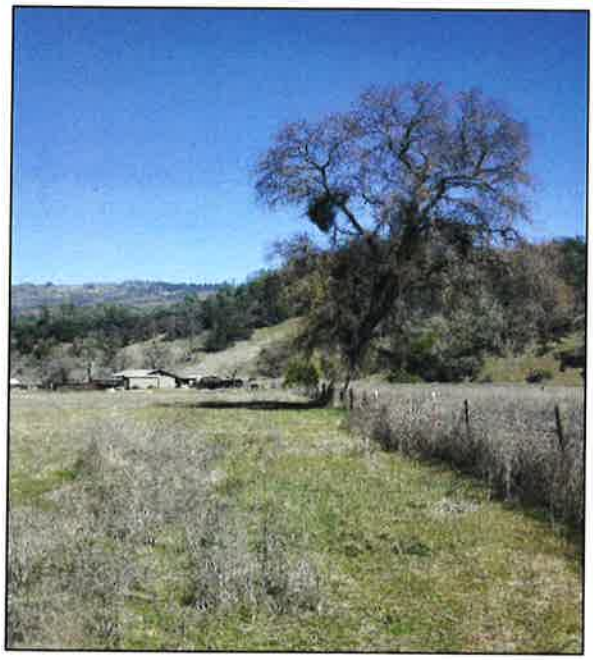


Photo 8: Oregon white oak in Survey Area 2

Supplemental information: Mature oak on eastern fence of survey area 2.

Date: 24 February 2020

Photo 9: Project Area 3

Supplemental information:
Historic cultivation area.
Proposal to remove.

Date: 24 February 2020

Photo 10: Project Area 3

Supplemental information:
Interior view of historic cultivation area. Client wishes to remove all infrastructure.

Date: 24 February 2020

Photo 11: Project Area 3

Supplemental information: Three manzanita shrubs and an oak tree on the outside/south of the fence. One more manzanita shrub is inside the fence.

Date: 24 February 2020

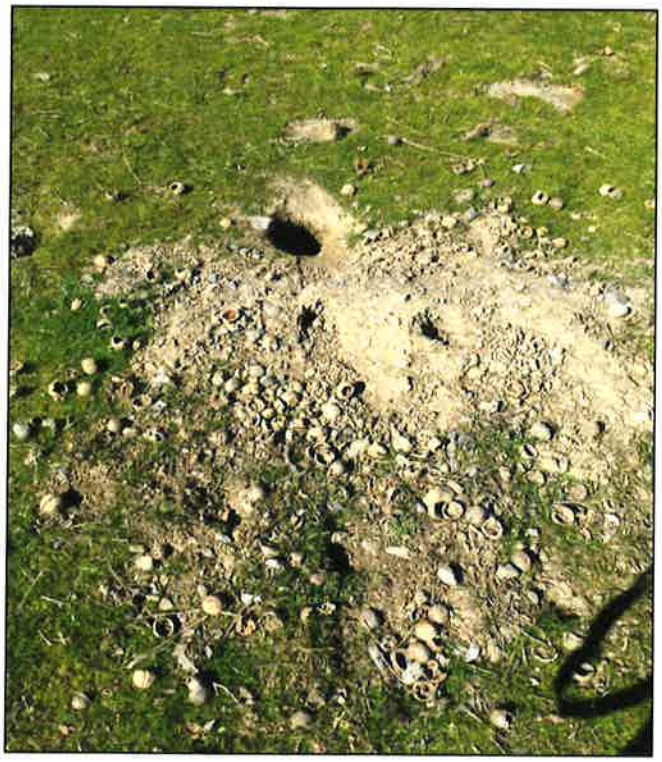


Photo 12: California ground squirrel burrows

Supplemental information: Burrow entrances typically have empty walnut shells and rocks scattered at front.

Date: 24 February 2020

Photo 13: Gopher tunnels and burrows

Supplemental information:

Date: 24 February 2020

Photo 14: Wet Area in Western Corner of Property

Supplemental information: A 100 foot- buffer will be placed around this site. The pool occurs on the fence line at the property boundary.
Date: 24 February 2020

Photo 15: Wet Area in Western Corner of Property

Supplemental information: A 100 foot- buffer will be placed around this site. The pool occurs on the fence line at the property boundary.
Date: 24 February 2020

Photo 16: Wet Area in Western Corner of Property

Supplemental information: Blue arrow points to suspected water source. A 100 foot- buffer will be placed around this site. The pool occurs on the fence line at the property boundary.

Date: 24 February 2020

Photo 17: Crayfish "Chimneys"

Supplemental information: Suspected work of Crayfish.

Date: 24 February 2020

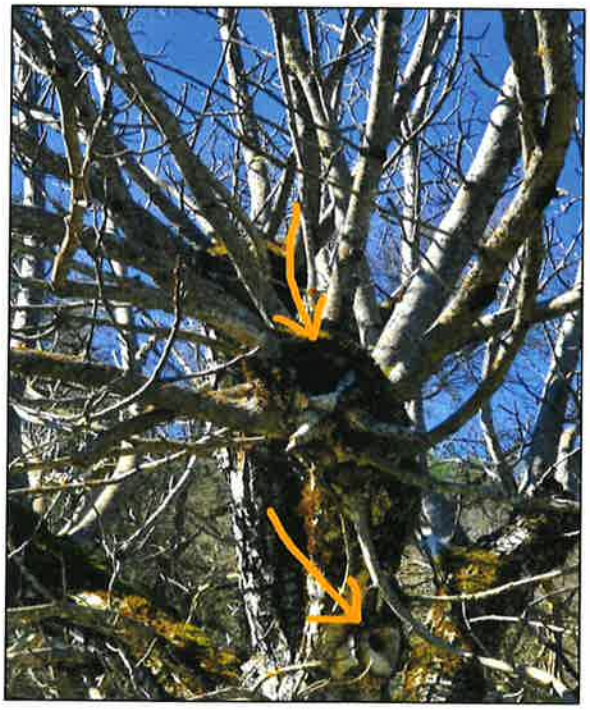


Photo 18: Tree Cavities

Supplemental information: Potential nest sites or bat roost in walnut tree.

Date: 24 February 2020

Photo 19: Bird Nest

Supplemental information:
Old grass nest in oak tree.

Date: 24 February 2020

Photo 20: Bird Nest

Supplemental information:
Old grass nest on out building

Date: 24 February 2020

Photo 21: Unidentified Bumblebee

Supplemental information: The photo is the best available evidence that a bumblebee was encountered.

Date: 24 February 2020

Photo 22: Potential Bat Roost Locations

Supplemental information: Unused chicken coop; no bat sign observed.

Date: 24 February 2020

Photo 23: Potential Bat Roost Locations

Supplemental information: Out building between PA1 and PA2

Date: 24 February 2020

Photo 24: Potential Bat Roost Locations

Supplemental information: Out building between PA1 and PA2

Date: 24 February 2020