

Habitat Assessment

1260 Shady Brook Lane
Napa County, CA

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SUMMARY

The Shady Brook Lane proposed project is located at 1260 Shady Brook Lane, on the east side of the Napa Valley, east of the City of Napa, Napa County. The proposed project includes development of approximately 1.3-acres into a vineyard, based on information provided by Mike Muelrath, with Applied Civil Engineering Inc.

This Habitat Assessment presents the findings of our review of scientific literature and reports detailing previous studies conducted in the area, and the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) and Napa County's Baseline Data Report (Jones & Stokes 2005) for reported occurrences of special status vegetation communities, plants and animals.

As part of this Habitat Assessment, we conducted a site visit of all habitats on the 41.8-acre parcel to evaluate the potential for occurrence of 37 special status plant species, and 33 special status wildlife species. Seasonal protocol-level surveys for special status plants were conducted from March to July to cover the flowering period for all potential special status plants known to occur in the area.

Eight (8) vegetation community types, corresponding to *The Manual of California Vegetation Second Edition* (Sawyer, et. al. 2009), and/or vegetation types described in the Napa County Baseline Data Report for Napa County (Jones & Stokes 2005), occur on the property: 1) coast live oak woodland, 2) coast live oak riparian; 3) non-native annual grassland; 4) valley needlegrass grassland; 5) chamise chaparral, 6) mesic/wet meadow; 7) wetlands and 8) landscaped and developed areas. One perennial to intermittent drainage was mapped within the property boundaries that qualify as waters of the U.S. and state. A formal delineation was not conducted for the property so the designation for the wetlands, seeps and wet meadow areas is based on field observations.

The 41.8-acre parcel includes 0.8 acres of developed area, encompassing a residence, landscaped areas, a small fenced garden, and entrance road, leaving 41.0-acres of undeveloped land. The project proposes to convert 1.3-acres into vineyard. Of the 1.3 acres that will be converted, 0.2 acres is oak woodland and 1.1 acres is non-native grassland.

All drainages and wetlands will be avoided with established setbacks. Please refer to the Biology Retention Exhibit for details on vegetation communities, acreages and vineyard development.

Full development of the 41.8-acre property into vineyard will not occur. As a result, no impacts to movement corridors for wildlife will occur. The individual vineyard areas may be fenced. The vineyard block are small and if fenced there will still be sufficient space for wildlife to move through the area.

Invertebrate pollinators have potential to occur on the site, but a sufficient amount of habitat will remain after the proposed vineyard planting. As a result, there will be no decrease in the number of individual pollinators in this portion of Napa County.

Based on the literature review, the habitats present on the site, the seasonal periods of bird nesting and bat roosting, and the limitations of the surveys conducted for this assessment, the following table identifies the biological resources and their seasons of occupancy to be addressed prior to ground breaking.

Biological Resource	Actions/Seasons to determine occupancy	Action/Seasonality to prevent take of individuals
Nesting birds	February 1- August 31	September 1- January 31
Roosting bats	Habitat assessment conducted year-round	March 1 – April 15; September 1 – October 15

The Impacts and Mitigation Measures provide details on preventing take of individuals.

INTRODUCTION

Mr. Daniel Chen contracted with Jane Valerius Environmental Consulting and Wildlife Research Associates to conduct a Habitat Assessment of the 41.8- acres property (APN: 052-190-013) located at 1260 Shady Brook Lane, in the southeastern portion of Napa County, California. This habitat assessment was conducted to determine the potential for special status vegetation communities, plant and animal species to occur within the proposed project and to identify the limitations to potential development of the project, such as habitat removal.

The vineyard design was created based on the findings of this habitat assessment in order to minimize the amount of impacts. The creek, wetlands, meadows and the rock outcrops areas will be avoided and the appropriate buffer will be maintained in compliance with the County's standards.

A portion of the site was previously developed for a residence and entrance road. The total existing developed area is 0.8 acres leaving 41.0 acres of undeveloped, natural land. The total vineyard development area proposed is 1.3 acres, which represents 3.2% of the 41.0-acre undeveloped area.

This Habitat Assessment is part of the preliminary analysis of both the existing environment and potential impacts from the proposed project as required under the California Environmental Quality Act (CEQA) for new projects. Federal and state agencies that have purview over biological resources include the following:

- U.S. Army Corps of Engineers (USACE) - regulates the discharge of dredged or fill material into waters of the United States,
- U.S. Fish and Wildlife Service (USFWS) - authority over federally listed plant and animal species,
- National Marine Fisheries Service (NMFS) - authority over essential fish habitat, which is habitat necessary to maintain sustainable fisheries,
- California Regional Water Quality Control Board (RWQCB) - protects all waters with special responsibility for wetlands, riparian areas, and headwaters, and the
- California Department of Fish and Wildlife (CDFW) - authority over state listed plants and animals as well as streams and lakes within the State.

Napa County Open Space and Conservation Element

The Napa County General Plan Policy Con-24, within the Open Space and Conservation Element, addresses removal of oak woodlands (Napa County 2008). In addition, the Napa County General Plan directs the County to retain existing oaks to the extent feasible as part of residential, commercial, industrial and agricultural land division approvals. Projects should include management plans for fishery and wildlife including provisions to employ supplemental planting and maintenance of trees to provide adequate vegetation cover to keep watersheds in good condition and provide shelter and food for wildlife. The Oak Woodland Conservation Program in the Open Space and Conservation Element requires hardwood cutting to maintain adequate stands of oaks for wildlife, slope stabilization, soil protection, and acorn production (Napa County 2008).

Napa County General Plan Conservation Goal CON-3 and Policy CON-13 also obligates the County to protect the continued presence of special status species and their habitat and provide protection for habitat supporting special status species through buffering or other means. These conservation goals have been addressed in this habitat assessment.

The Napa County Code Title 18, also known as the Napa County Zoning Code, for AW Agricultural Watershed District, Chapter 18.20 requires the replacement of oak woodland or permanent preservation of like habitat at a minimum 3:1 ratio along with a 70% canopy cover for project that impact oak woodlands.

Site Location

The approximately 41.8-acre parcel is located on the west side of Shady Brook Lane, north of Wild Horse Valley Road, east of the City of Napa, on the east side of Napa Valley. The project site is located within the Tulucay Creek watershed (Napa County 2009), within the larger Napa River watershed (Figure 1).

The site is situated on a generally south-and west-facing slopes. Previous activities on the parcel have included the establishment of a residence and a driveway. Surrounding land uses include vineyards and rural residences. The 2017 Atlas Fire of Napa swept through the parcel and removed much of the vegetation along the ridgelines.

Proposed Project

The proposed project consists of converting approximately 1.3-acres of land into 2 vineyard blocks. Please refer to the attached Biology Retention Exhibit for more details. Activities include the removal of 0.2 acres of oak woodland and 1.1 acres of non-native grassland (Biology Retention Exhibit). Vineyard development will also include installation of drip irrigation and associated roadways and turnarounds and vineyard maintenance.

METHODS

Information on special status plant and animal species was compiled through a review of the literature and database search. Database searches for known occurrences of special status species focused on the Napa and Mt. George U.S. Geologic Service 7.5-minute topographic quadrangles, which provided a five-mile radius around the proposed project area. The following sources were reviewed to determine which special status plant and wildlife species have been documented in the vicinity of the project site:

- U.S. Fish and Wildlife Service (USFWS) Information on Planning and Conservation (IPaC) (USFWS 2023)
- California Natural Diversity Database records (CNDDB) (CDFW 2023)
- California Department of Fish and Wildlife's (CDFW) Special Animals List (CDFW 2023),
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2023)
- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2023)
- California Department of Fish and Game (CDFG) publication "California's Wildlife, Volumes I-III" (Zeiner, et al., 1990)
- Napa County Baseline Data Report (BDR) (Jones & Stokes 2005)
- Napa County General Plan (Napa County 2008)

Botanical nomenclature used in this report conforms to Baldwin, et al. (2012) for plants and to Sawyer, et al. (2009) for vegetation communities and/or the Napa County Baseline Data Report (Jones & Stokes 2005). Nomenclature for special status animal species conforms to CDFW (2023). Appendix A presents a list of special status plant species reviewed for this project. There were no recorded occurrences for any special status mosses, lichens, liverworts or hornworts for Napa County based on the CNDDB and CNPS data base searches and for the Napa County Baseline Data Report. Appendix B presents the mapped occurrences of special status plants within a 3-mile radius.

Appendix C presents a list of special status animal species reviewed for this project. Appendix D presents the mapped occurrences of special status animals within a 1-mile radius.

Site Survey: Jane Valerius, botanist and wetland specialist of Jane Valerius Environmental Consulting, and Trish Tatarian, Wildlife Research Associates, conducted an initial site visit on March 15, 2023, when the weather was clear and cool (~55° - 65° Fahrenheit). A list of plant species, including mosses and lichens, (Appendix E and F) and wildlife species (Appendix G) observed were recorded.

The March 15, 2023 reconnaissance-level site visit was intended only as an evaluation of on-site and adjacent habitat types for wildlife species. The project area was evaluated for suitable bird nesting habitat using 8 x 42 roof-prism binoculars, noting presence of old bird nests and cavities. A second site visit was conducted later in the nesting season, on April 27, 2023. Although the survey was not a specific nesting bird survey, breeding birds and their nests were noted. The scope of work for this proposed project would not benefit by having focused bird surveys per block because it is unclear when the development would go through, and conditions will likely change before the development proceeds.

Measures to prevent “take” of individuals (including harm, harass or kill), as required under the federal Migratory Bird Treaty Act and the California Department of Fish and Wildlife Code 3503 and 3503.5 have been included under the Impacts and Mitigation Measures section.

Surveys for special status plants were conducted by Jane Valerius, botanist, on March 15, April 27, and May 16 and July 13, 2023 with the primary focus on the areas proposed for vineyard development. As required by CDFW protocols, the areas proposed for vineyard development along with the adjacent areas to be preserved, were walked and all species identifiable at the time of the site visits were recorded (Appendix E and F). Identification of mosses and lichens was provided by David Toren, independent consultant and bryologist. Mosses and lichens were collected and sent to David Toren for identification. *A Field Guide to California Lichens* (Sharnoff 2014) was also used by Jane Valerius.

Additional areas were surveyed when in proximity and observations of plants surrounding the vineyard blocks was also recorded. However, detailed surveys were conducted specifically for the areas proposed for development with incidental occurrences recorded for areas outside of the proposed development areas sufficient to allow a determination of whether the areas to be preserved provide habitat for any special status plants.

As required by Napa County and CDFW, surveys for special status plants were conducted during the time of year when special status plants were in flower and therefore identifiable to species. The surveys were floristic in nature meaning that every plant observed was identified to the extent necessary to determine its rarity and listing status. The site visits were timed to be conducted throughout the growing season to cover the flowering period of the plants identified as potentially occurring in the area. Areas proposed for vineyard development and surrounding environments were walked. Species observed were recorded and are provided in Appendix E and F.

The 2023 flowering season was a wet year. The March 15, 2023 survey timing was for early flowering spring special status plant surveys. The April and May surveys covered the later spring and into summer flowering period and the July survey covered the summer flowering period.

EXISTING CONDITIONS

The project area is located within the North Coast Province (CDFW 2015). This province is located along the Pacific coast from the California-Oregon border to the San Francisco Bay watershed in the south (CDFW 2015). The eastern boundary includes the Cascade Range along the northern portion of the province and the transition to the Sacramento Valley along the southern portion. The coastal mountain ranges within the province are aligned somewhat parallel and rise from low to moderate elevation (i.e., up to about 7,500 feet) (CDFW 2015). The climate varies considerably across the province, with high precipitation levels and moderate temperatures in many coastal areas, and dry conditions with rain shadow effects and more extreme temperatures in some inland valleys. Overall, the province has a fairly wet climate and receives more rainfall than any other part of the state, feeding more than ten river systems (CDFW 2015).

The North Coast Province vegetation consists predominantly of conifer and mixed-conifer forests dissected by chaparral stands, riparian forests, and wetlands (CDFW 2015). Valley and foothill grassland and woodland communities emerge along the central and southern eastern border of the province, while coastal

wetlands and marshes appear along the coastline (CDFW 2015). Specifically, Douglas-fir, mixed-evergreen, western hardwoods, and chaparral-mountain shrub dominate the province (CDFW 2015).

The proposed project site is located within the eastern portion of the Napa topographic quadrangle, in Sections 5 and 8, Township 5N and Range 3W. Topographically, the parcel is located on a generally south-facing slope, between approximately 1,100 feet in elevation in the northeast and 600 feet in elevation in the southwest.

It is situated in the Eastern Mountains Evaluation Area, as stated in the Napa County Baseline Data Report (Jones & Stokes 2005). In 2005, despite covering only 16% of the county, 40% of the Eastern Mountains area was oak woodland, which comprised over 19% of the oak woodland in the County (Jones & Stokes 2005). Chaparral comprised the second most with 22% of the evaluation area, with grassland comprising 10%. More than half (51%) of the County's rock outcrops occur in this evaluation area. These numbers have not been updated for 2023.

Vegetation Communities

Eight vegetation community types have been mapped for the property (see Vegetation Community Exhibit and Table 2). Nomenclature for the vegetation communities is based on *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009) and/or the *Napa County Baseline Data Report* (Jones & Stokes 2005). Each of the vegetation types is described in more detail below Table 2. Figures 2 - 7 provide photographs of the vegetation communities.

Table 1: Total Acreages of Vegetation Types Present on Parcel

Vegetation Type	Total Acreages on Parcel*
Coast Live Oak Woodland	19.3
Coast Live Oak Riparian Woodland*	4.2
Chamise chaparral	14.0
Non-Native Annual Grassland (NNG)	2.4
Valley Needlegrass Grassland	0.2
Meadow	0.8
Wetlands (including seeps)	0.1
Developed/Landscaped Areas	0.8
TOTAL	41.8

* The vegetation cover for the unnamed blueline stream is included in the overall acreage for the coast live oak riparian vegetation type.

Quercus agrifolia Woodland Alliance or Coast Live Oak Woodland. Areas mapped as coast live oak woodland comprise 19.3 acres. For this property coast live oak was the only oak species observed on the property (Fig. 2). Other tree species observed include California bay laurel (*Umbellularia californica*) and madrone (*Arbutus menziesii*). The density of the tree canopy varies with some areas being dense and other areas being open. The shrub component also varies in density. Understory shrubs observed include poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), snowberry (*Symphoricarpos albus* var. *laevigatus*), manzanitas (*Arctostaphylos manzanita* ssp. *manzanita* and *A. canescens* ssp. *canescens*), sticky monkeyflower (*Diplacus aurantiacus*), chamise (*Adenostema fascicularis*) and toyon (*Heteromeles arbutifolia*). The understory herbaceous layer is comprised of non-native grassland that also includes native species as described below. One special status species, green monardella (*Monardella viridis*), occurs within the coast live oak woodland and was mapped. This is a CNPS Rank 4 species and is further discussed below.

Stands of coast live oak woodland can vary from upland savannas and woodlands to bottomland, riparian forests (Sawyer, et. al. 2009). In Napa County coast live oak woodland typically occurs at low elevations in the southern Napa watershed (Jones and Stokes 2005). As described in the Baseline Data Report (Jones & Stokes 2005), coast live oak woodland is characterized by an open to nearly closed canopy of coast live oak with madrone and California bay laurel typically comprising less than 10 to 15% relative cover.

Coast live oak riparian woodland: Approximately 4.2 acres of coast live oak riparian woodland were mapped for the project site. This vegetation community type was mapped for the area within the designated setback for the unnamed blue line stream channel in the south and eastern portions of the site. This type also includes some coast redwood (*Sequoia sempervirens*) trees (Fig. 3). Riparian trees and shrubs associated with this area include arroyo willow (*Salix lasiolepis*), buckeye (*Aesculus californica*), California bay laurel, California coffeeberry (*Frangula californica*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*). The open portion of the creek channel is rock lined and includes a fringe of wetland plants. Wetland plants observed within the stream channel include cattails (*Typha latifolia*), Santa Barbara sedge (*Carex barbarae*), water parsley (*Oenanthe sarmentosa*), curly dock (*Rumex crispus*), mugwort (*Artemisia douglasiana*), chain fern (*Woodwardia fimbriata*), Pacific rush (*Juncus effusus*), and common cow parsnip (*Heracleum maximum*).

Adenostoma fasciculatum Shrubland Alliance or Chamise Chaparral: Approximately 14.0 acres of chamise chaparral were mapped for the entire property. This vegetation type on the property is comprised of a mostly dense canopy of chamise along with a variety of other low shrubs including wavy leaved ceanothus (*Ceanothus foliosus* var. *foliosus*), manzanitas, yerba santa (*Eriodictyon californica*), sticky monkeyflower, toyon and poison oak (Fig. 4). A variety of native herbaceous species also occur in this area including honeysuckle (*Lonicera hispidula*), mules ears (*Wyethia glabra*), California melic (*Melica californica*), California sunflower (*Helianthella californica*), golden fairy lantern (*Calochortus amabilis*), clarkia (*Clarkia purpurea* ssp. *quadrivulnera*), blue dicks (*Dipterostemon capitatus* ssp. *capitatus*), elegant brodiaea (*Brodiaea elegans* ssp. *elegans*), soaproot (*Chlorogalum pomeridianum*), blue-eyed grass (*Sisyrinchium bellum*), and deer weed (*Acmispon glaber*).

Non-Native Annual Grassland: Approximately 2.4 acres of non-native annual grassland were mapped for the entire property (Fig. 5). This vegetation type on the project site is comprised of a combination of wild oats (*Avena barbata* and *A. fatua*), bromes (*Bromus hordeaceus*, *B. diandrus*, *B. madritensis*, *B. catharticus*), hare barley (*Hordeum murinum* ssp. *leporinum*), dogtail grass (*Cynosurus echinatus*), ryegrass (*Festuca perennis*), rattail fescue (*Festuca myuros*), European hairgrass (*Aira caryophylla*), Harding grass (*Phalaris aquatica*), and false brome (*Brachypodium distachyon*). Non-native forb species include euphorbia (*Euphorbia* sp.), Italian thistle (*Carduus pycnocephalus*), yellow starthistle (*Centaurea solstitialis*), Queen Anne's lace (*Daucus carota*), filarees (*Erodium* spp.), vetch (*Vicia sativa*), English plantain (*Plantago lanceolata*), rose clover (*Trifolium hirtum*), Childing pink (*Petrohagia prolifera*), and wild radish (*Raphanus sativus*).

There were numerous native forb species observed. Please refer to Appendix E for a full list of plant species observed. Common natives within the grassland included yarrow (*Achillea millefolium*), common fiddleneck (*Amsinckia intermedia*), true babystars (*Leptosiphon bicolor*), variable linanthus (*Leptosiphon parvilforus*), sanicles (*Sanicula crassicaulis*, *S. bipinnata*, *S. bipinnatifida*, *S. tuberosa*), purple navarretia (*Navarretia pubescens*), Spanish lotus (*Acmispon americanus*), elegant brodiaea, golden fairy lantern, soaproot, clarkia, miner's lettuce (*Claytonia perfoliata*), hounds tongue (*Cynoglossum grande*), blue dicks, California poppy (*Eschscholzia californica*), and blue-eyed grass. One population of Napa bluecurls was mapped within the non-native grassland type and occurs in the existing dirt access road that goes north of Block 1 (see Exhibit).

Stipa pulchra Valley Needlegrass Grassland: Approximately 0.2 acres of valley needlegrass grassland was mapped for the property. Valley needlegrass grassland is a sensitive natural community type and is characterized by the presence of 10% or more relative cover by purple needlegrass (*Stipa pulchra*) in the overall herbaceous community (Sawyer and Keeler-Wolf 2008). The relative cover of purple needlegrass for this area was over 20% and may be denser in patches (Fig. 6). Common species observed in this type

include most of the non-native grass species including wild oats, ripgut brome, and European hairgrass. Non-native forbs included filarees (*Erodium* spp.), rough cat's-ear (*Hypochaeris radicata*), Italian thistle (*Carduus pycnocephalus*), and scarlet pimpernel (*Lysimachia arvensis*).

Meadow: Approximately 0.8 acres of meadow were mapped for the property. This type differs from the meadow with rock outcrop type mostly in that the vegetation cover is denser and there is not an underlying rock outcrop as substrate. This type also has the potential to support wetlands. It was not mapped as a wetland type as a formal delineation was not conducted but mesic to wetland type plants were observed in this community type. Plants associated with this type included native and non-native species including small quaking grass (*Briza minor*), Kellogg's yampa (*Perideridia kelloggii*), honeysuckle, English plantain (*Plantago lanceolata*), miner's lettuce (*Claytonia perfoliata*), collinsia's (*Collinsia heterophylla* and *C. sparsiflora*), sand pygmy weed (*Crassula connata*), ryegrass, rushes (*Juncus bufonias*, *J. tenuis*, *J. xiphioides*), hawbit (*Leontodon saxatilis*), woolly-fruited lomatium (*Lomatium dasycarpus* ssp. *dasycarpum*), wood rush (*Luzula comosa* var. *comosa*), hyssop loosestrife (*Lythrum hyssopifolia*), California melic (*Melica californica*), and dwarf bladder clover (*Trifolium depauperatum* var. *depauperatum*). If these areas were to be developed in the future a formal delineation is recommended to determine the wetland or non-wetland status of these areas.

Wetlands, Seeps and Other Waters of the U.S. and State. Approximately 0.1 acres were mapped as wetlands on the property (Fig.7). A formal delineation was not conducted but these areas had a dominance of wetland plants and evident wetland hydrology so were mapped as wetlands. A seep wetland occurs along the dirt access road along the cut face of the road in the central portion of the property (see Vegetation Communities Exhibit). This wetland had water seeping from March to May and was dominated by an obligate wetland plant called seep monkeyflower (*Erythranthe guttata*). Another wetland area was mapped within the non-native grassland area in the central portion of the property. This wetland area is likely a created wetland as it occurs in an area that had been excavated. This created an opportunity for water to pond. Wetland plants associated with this area include toad rush, spike rush (*Eleocharis macrostachya*), hyssop loosestrife, lippia (*Phyla nodiflora*), rabbitsfoot grass (*Polypogon monspeliensis*), hawbit, and annual hair grass (*Deschampsia danthonioides*). This area also includes a CNPS Rank 1B species, Napa bluecurls (*Trichostema ruygtii*), which is often associated with mesic to wet areas.

One unnamed blueline drainage occurs on the property that qualifies as a waters of the U.S. and state which is located in the eastern portion of the property, on the north and west side of the entrance road and varies in width from 2 to 4 feet wide at the ordinary high water mark (OHWM). This is a perennial to intermittent drainages. It is a narrow, incised drainage with a rocky to gravelly bottom and steep slopes. In portions of the drainage there is a fringe of wetland vegetation along the toe of slope including a mapped cattail wetland described above in the Coast Live Oak Riparian Woodland section. Wetland plants observed within the stream channel include cattails, Santa Barbara sedge, water parsley, curly dock, mugwort, chain fern, Pacific rush, and common cow parsnip (*Heracleum maximum*). A 65- to 85-foot setback from top of bank of the unnamed blueline stream will be maintained as shown on the Vegetation Communities Exhibit.

Developed/Landscaped Areas: Approximately 0.8 acres were mapped as developed/landscaped areas (Fig. 8). This includes the paved access road, the existing residence, landscaped garden areas around the residence, a small fenced garden and some olive (*Olea europea*) trees. Other plants associated with this area include blue gum (*Eucalyptus* sp.), cactus (*Opuntia* sp.), various aloes and succulents, pampas grass (*Cortaderia jubata*), juniper (*Juniperus* sp.), rosemary (*Rosmarinus officinalis*), calla lily (*Zantedeschia aethiopica*), maple (*Acer* sp.), orange (*Citrus* sp.), and garden iris (*Iris* sp.).

Wildlife Habitats

The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of diversity of abiotic and biotic conditions and is greatly affected by human use of the land. The wildlife habitat quality of an area, therefore, is ultimately determined by the type, size, and diversity of vegetation communities present and their degree of

disturbance. Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. Wildlife habitat classification for this report is based on the California Department of Fish and Wildlife's Wildlife Habitat Relationships (WHR) System (2016). The following is a discussion of the wildlife species supported by the on-site habitats, as described by *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Table 3 presents the vegetation communities on the site and their corresponding wildlife habitats. A description of the wildlife species supported in each habitat is presented below.

Table 2: Vegetation Types and Wildlife Habitat Corollary Present on Parcel

Vegetation Type	Wildlife Habitat
Coast Live Oak Woodland	Coast Live Oak Woodland
	Individual Trees
Coast Live Oak Riparian Woodland	Valley Foothill Riparian
Chamise chaparral	Chamise Chaparral
Non-Native Annual Grassland	Annual Grassland
Valley Needlegrass Grassland	Perennial Grassland
Meadow	Perennial Grassland
Wetlands (including seeps)	Fresh Emergent Wetland
Developed/Landscaped Areas	Developed

Coast Live Oak Woodland: The woodlands provide habitat for a variety of species, including refugia for reptiles, such as ring-necked snake (*Diadophis punctatus*), amphibians, such as the Pacific slender salamander (*Batrachoseps attenuatus*) and arboreal salamander (*Aneides lugubris*), foraging and nesting habitat for passerines, and roosting habitat for bats. Smaller passerines, such as chestnut-backed chickadee (*Poecile rufescens*), bushtit (*Psaltirparus minimus*), oak titmouse (*Baeolophus inornatus*), white-breasted nuthatch (*Sitta carolinensis*), acorn woodpecker (*Melanerpes formicivorus*), observed on the site in and adjacent to Block 1 Section B and Section A, as well as downy woodpecker (*Picoides pubescens*), and Nuttall's woodpecker (*Picoides nutallii*) may nest and forage in the woodlands, feeding on insects on the bark. Birds that forage for insects in the leaves of plants include Bewick's wren (*Thryomanes bewickii*), orange-crowned warbler (*Vermivora celata*), and bushtit (*Psaltirparus minimus*), which were observed and heard in and adjacent to Block 1 Section B and Section A. Other species observed nesting on the site include western bluebird (*Sialia mexicana*), dark eyed junco (*Junco hyemalis*) and California towhee (*Melospiza crissalis*). Oak trees on the west-facing slopes above the meadow provide potential nesting habitat for tree swallows (*Tachycineta bicolor*). The gray fox (*Urocyon cinereoargenteus*) also utilizes the poison oak and black berry bushes for food and shelter, foraging on small birds and mammals, insects, fungi and berries. Several of the trees contained cavities, crevices and exfoliating bark that may support roosting bats species, such as long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), California myotis (*Myotis californicus*), big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*) and pallid bat (*Antrozous pallidus*). The site proposed for development in the oak woodland contained trees of the same senescence that were present in the oak woodland areas to be retained.

Valley Foothill Riparian: Riparian areas provide nesting habitat and insect diversity attractive to a variety of migratory birds. Diverse foraging substrates, such as foliage, bark and ground substrates, increase feeding availability. Birds that forage for insects in the leaves of plants include Bewick's wren (*Thryomanes bewickii*), hooded oriole (*Icterus cucullatus*), orange-crowned warbler (*Vermivora celata*), bushtit (*Psaltirparus minimus*), and black-headed grosbeak (*Pheuticus melanocephalus*). Bark-insect foraging species, such as Bewick's wren, downy woodpecker (*Picoides pubescens*), Nuttall's woodpecker (*Picoidess*

nuttallii), oak titmouse (*Baeolophus inornatus*) and white-breasted nuthatch (*Sitta carolinensis*) forage for insects in the bark. There are a few species that are adapted to foraging for insects in flight, such as black phoebe (*Sayornis nigricans*), western wood pewee (*Contopus sordidulus*) and tree swallows (*Tachycineta bicolor*). Generalist omnivores are species such as the scrub jay (*Aphelocoma caerulescens*) and European starling (*Sturnus vulgaris*) that eat a variety of different foods, from insects to seeds to fruits. Although insects are the primary food source for most species in the riparian habitat, ground dwelling species, such as California quail (*Callipepla californica*), spotted towhee (*Pipilo maculatus*) and California towhee (*Melospiza crissalis*), are also present in the riparian habitat feeding on seeds. Underneath the cover of fallen leaf litter and bark, amphibians, such as Pacific slender salamander (*Batrachoseps attenuatus*), rough skinned newt (*Taricha granulosa*) and ensatina (*Ensatina eschscholtzii*), can be found.

Chamise chaparral: This habitat, dominated by chamise, does not contain the diversity of food for wildlife as mixed chaparral, due to the monotypic species in this habitat. This dense vegetation often forms closed canopies in older stands (25 years), thus prohibiting the growth of understory herbaceous plants. Senescence (death) is reached in 25 to 60 years, in the absence of fire. Wildlife species will use chamise chaparral for cover and movement corridors. Several passerines (perching birds) use this habitat exclusively for nesting, including wrentit (*Chamaea fasciata*), blue-gray gnatcatcher (*Polioptila caerulea*), which was heard adjacent to Block 1 Section B, and California thrasher (*Toxostoma redivivum*). Often the canopy is too low, 3-6 feet, and dense for nesting raptors, although a sharp-shinned hawk (*Accipiter striatus*) was observed adjacent to Block 1 Section B. Predators, such as gray fox or bobcat, might prey on small mammals along the edges of the habitat. Western rattlesnake (*Crotalus viridis*) inhabits the warm, dry chamise habitat, as well as western fence lizards (*Sceloporus occidentalis*).

Annual Grasslands: Non-native grassland habitat provides both primary habitat, such as nesting and foraging, and secondary habitat, such as a movement corridor. Small species using this habitat as primary habitat include reptiles, such as gopher snake (*Pituophis catenifer*), and amphibians, such as Pacific slender salamander (*Batrachoseps attenuatus*) and Pacific chorus frog (*Pseudacris regilla*), which feed on invertebrates found within and beneath vegetation within the vegetation community. A shallow cleared area, approximately 50 X 50 ft by 12 inches, east of Block 1 Section B, supported breeding chorus frog. This habitat also attracts seed-eating and insect-eating species of birds, such as orange-crowned warbler (*Leiothlypis celata*), western bluebird (*Sialia mexicana*) and mourning dove (*Zenaidura macroura*). Signs of wildlife using the grasslands include Botta's pocket gophers (*Thomomys bottae*) and striped skunk (*Mephitis mephitis*).

Perennial Grasslands: Similar to non-native annual grasslands, native perennial grasslands provide primary and secondary habitat for wildlife. Perennial grasslands provide higher insect diversity than annual grasslands because they support more native flowers and provide multiple textures and heights of grasses for nesting and overwintering (Xerces Society 2018).

Fresh Emergent Wetland: Outside the two Blocks, there were several small pools that supported ponding water and they provided an above-ground moisture that is important to amphibians as they move across a landscape. Amphibian species using the fresh emergent wetland include the Pacific chorus frog (*Pseudacris regilla*) and potentially western toad (*Bufo boreas*). Aerial foraging species that hunt over marshy areas that supported winged insects include various swallow species, such as tree swallow (*Tachycineta bicolor*), and bat species, such as myotis (*Myotis* sp.).

Individual Trees. Within and outside of the two blocks, individual trees are foraging and nesting habitat for passerines, and roosting habitat for bats. Smaller passerines, such as chestnut-backed chickadee (*Poecile rufescens*), bushtit (*Psaltiriparus minimus*), oak titmouse (*Baeolophus inornatus*) and acorn woodpecker (*Melanerpes formicivorus*) may nest and forage in the larger trees, feeding on insects on the bark. No large cavities capable of supporting the larger raptors, such as great horned owl (*Bubo virginianus*), were present. Smaller cavities in the oak trees may provide potential nesting habitat for tree swallows (*Tachycineta bicolor*) and white-breasted nuthatch (*Sitta carolinensis*).

Bats that use trees fall into three categories: 1) solitary, obligate tree-roosting bats that roost in the foliage or bark such as Western red-bat (*Lasiurus blossevillei*), a California Species of Special Concern (SSC), or hoary bat (*Lasiurus cinereus*); 2) colonial tree-roosting bats that form groups of varying size in tree cavities or beneath exfoliating bark, such as silver-haired bats (*Lasionycteris noctivagans*), and 3) more versatile bat species that will use a wide variety of roosts from buildings to bridges to trees, such as various *Myotis* species, pallid bat (*Antrozous pallidus*), another SSC species, and others.

Solitary-roosting bats consist either of females either alone or with young, or solitary males. Colonial-roosting bats may form maternity colonies in tree cavities or crevices, caves, mines, bridges, or other man-made structures. During the day, these roosts provide shelter and protection for adult females and their young, which remain in the roost while females forage at night, returning to nurse and care for their young. Greater impacts to bats can occur as a result of removal of trees that support cavity-roosting bat species than those that provide habitat for solitary foliage-roosting species. The sites proposed for development that contained individual trees with suitable bat habitat were the same percentage of potential habitat structure as the areas to be retained.

Landscaping: Species that are inured to humans that are often observed in landscaped areas include red-winged blackbirds (*Agelaius phoeniceus*), American robin (*Turdus migratorius*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*) and mourning dove (*Zenaida macroura*), among others. Species, planting design, and maintenance control the structural characteristics of this type of habitat and whether it will be used by nesting birds (Mayer and Laudenslayer 1988). The overall mosaic may be more valuable as wildlife habitat than the individual units in that mosaic (Mayer and Laudenslayer 1988). Within the parcel the landscaping provides little suitable habitat for nesting birds.

Movement Corridors

Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement among populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation, and if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

As described in the *California Essential Connectivity Project* (Spencer, et al. 2010), the study area is located in the Bay Delta Ecoregion (Spencer et al. 2010). The natural drainages in the area (e.g., Murphy Creek) flow southwest into the Napa River and south into the Carquinez Bay and into the Pacific Ocean. The Study Area is adjacent to the Mount St Helena Flows and Valleys (#510) Natural Landscape Block (defined as relatively natural habitat blocks that support native biodiversity) and within the Putah Creek, San Pablo, Suisun (#39) Connectivity Area (Spencer et al 2010).

Wildlife connectivity of this site to other open lands in the area occurs within the chamise, the oak woodlands and the riparian corridor. The proposed vineyard blocks will not impede this movement, nor will the creation or maintenance of the vineyard blocks interfere with movements.

SPECIAL STATUS BIOLOGICAL RESOURCES

Regulatory Setting

Certain vegetation communities, and plant and animal species are designated as having special status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special status is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. The California Endangered Species Act (CESA) amends the California Fish and Wildlife Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA. Below are the specifics of each regulatory act that protects biological resources in California.

Clean Water Act (CWA)

The Federal Clean Water Act (CWA) is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. As such, the CWA empowers the U.S. Environmental Protection Agency to set national water quality standards and effluent limitations, and establishes permit review mechanisms to enforce them. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit.

Most CWA provisions are at least indirectly relevant to the management and protection of biological resources because of the link between water quality and ecosystem health. The portions that are most directly relevant to biological resources management are contained in Section 404, which regulates the discharge of dredged and fill materials into waters of the United States (comprising wetlands and other waters of the United States), which include:

- All areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned; and
- Seasonal and perennial wetlands, including coastal wetlands.

Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3). To qualify as a wetland the area must have a dominance of wetland plants, presence of wetland soils and wetland hydrology. These parameters are further defined in the 1987 Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers (2008).

Section 404 requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including oceans, bays, rivers, streams, lakes, ponds, and wetlands, before proceeding with a proposed activity. These permits may be issued only for the least environmentally damaging practicable alternative (i.e., authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less-adverse impacts and lacks other significant adverse consequences).

CWA Section 401 requires that applicants for a federal license or permit to authorize activities that may result in the discharge of a pollutant into waters of the United States, obtain certification from the state in which the discharge would originate that the discharge not violate state water quality standards. Section 401 certification in this region is provided by the San Francisco Regional Water Quality Control Board (RWQCB).

Federal Endangered Species Act (FESA)

The Federal Endangered Species Act (FESA) was enacted in 1973 for the purpose of protecting fish and wildlife species (and their habitats) that have been identified by USFWS or National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) as threatened or endangered. Endangered refers to species, subspecies, or distinct population segments in danger of extinction throughout all or a significant portion of their range; threatened refers to species, subspecies, or distinct population segments likely to become endangered in the future. USFWS and NOAA Fisheries administer the federal ESA. In general, NOAA Fisheries is responsible for protection of FESA-listed marine and anadromous fish species, while other listed species are under USFWS jurisdiction. Specific portions of the geographical area occupied by the species at the time of listing may require special management considerations or protections. These areas are designated as “Critical Habitat”. Section 9 of FESA prohibits the “take” of species listed under FESA, except when authorized by a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Private project sponsors are required to consult with USFWS and NOAA Fisheries on actions that may have direct or indirect impacts on species listed under FESA, and to obtain a permit under Section 10 of FESA for any “take” of such a species that might result from implementing the proposed project.

Migratory Bird Treaty Act (MBTA)

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The act encompasses whole birds, parts of birds, and bird nests and eggs. The Migratory Bird Treaty Act (MBTA) is administered by the USFWS Division of Migratory Bird Management, which makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird.” This includes direct and indirect acts, with the exception of harassment and habitat modification, which are not included unless they result in direct loss of birds, active nests, or eggs. Most bird species occurring in California fall under the protection of the MBTA, except those species that belong to the families not listed in any of the four treaties, such European starling (*Sturnus vulgaris*).

California Endangered Species Act (CESA)

The California Endangered Species Act (CESA (FGC §§ 2050–2116) is administered by DFG. The CESA prohibits the “taking” of listed species except as otherwise provided in state law. The CESA includes FGC Sections 2050–2116, and policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat. The CESA requires mitigation measures or alternatives to a proposed project to address impacts to any State listed endangered, threatened or candidate species, or if a project would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy. Section 86 of the FGC defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Unlike the ESA, CESA applies the take prohibitions to species under petition for listing (state candidates) in addition to listed species. Section 2081 of the FGC expressly allows DFG to authorize the incidental take of endangered, threatened, and candidate species if all of the following conditions are met:

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- Issuance of the permit will not jeopardize the continued existence of the species.
- The permit is consistent with any regulations adopted in accordance with §§ 2112 and 2114 (legislature-funded recovery strategy pilot programs in the affected area).

- The applicant ensures that adequate funding is provided for implementing mitigation measures and monitoring compliance with these measures and their effectiveness.

The CESA provides that if a person obtains an incidental take permit under specified provisions of the ESA for species also listed under the CESA, no further authorization is necessary under CESA if the federal permit satisfies all the requirements of CESA and the person follows specified steps (FGC § 2080.1).

California Fish and Game Code

The California Constitution establishes the California Fish and Game Commission (Commission) (CA Constitution Article 4, § 20). The California Fish and Game Code (FGC) delegates the power to the Commission to regulate the taking or possession of birds, mammals, fish, amphibian and reptiles (FGC § 200). The Commission has adopted regulations setting forth the manner and method of the take of certain fish and wildlife in the California Code of Regulations, Title 14.

California Fish and Game Code- Species Protection

The FGC establishes DFG (FGC § 700) and states that the fish and wildlife resources of the state are held in trust for the people of the state by and through DFG (FGC § 711.7(a)). All licenses, permits, tag reservations and other entitlements for the take of fish and game authorized by FGC are prepared and issued by DFG (FGC § 1050 (a)).

Provisions of the FGC provide special protection to certain enumerated species such as:

- § 3503 protects eggs and nests of all birds.
- § 3503.5 protects birds of prey and their nests.
- § 3511 lists fully protected birds.
- § 3513 protects all birds covered under the federal Migratory Bird Treaty Act.
- § 3800 defines nongame birds.
- § 4700 lists fully protected mammals.
- § 5050 lists fully protected amphibians and reptiles.
- § 5515 lists fully protected fish species.

California Fish and Game Code—Lake or Streambed Alteration

Fish and Game Code § 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying DFG of that activity. All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG under § 1602 of the FGC. Lake or Streambed Alteration Agreements are typically required for activities such as excavation or placement of fill within a stream channel, vegetation clearing, installation (and sometimes operation) of structures that divert the flow of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement.

Regional Water Quality Control Board

The mission of the Regional Water Quality Control Board (RWQCB) is to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health and all beneficial uses. The RWQCB also issues Section 401 water quality certifications for projects that require a Section 404 permit from the USACE for the placement of fill into wetlands and waters of the U.S. and State. All waters of the U.S. are also waters of the State.

The RWQCB (2015) uses the following definitions for stream classification:

- Class I watercourse 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source;
- Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1000 feet of a watercourse that seasonally or always has fish present;

- Class III watercourse is a watercourse with no aquatic life present, and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions after completion of timber operations

Special Status Vegetation Communities

Sensitive natural communities are those that are considered rare in the region, may support special status plant or wildlife species, or may receive regulatory protection (i.e., through Section 404 of the CWA and/or Sections 1600 et seq. of the California Fish and Wildlife Code). In addition, sensitive natural communities include plant communities that have been identified as having highest inventory priority in the California Natural Diversity Database (CNDDDB). A *Manual of California Vegetation* (Sawyer, et al. 2009) also provides the rarity ranking status of these communities. The valley needlegrass grassland type is a sensitive natural community type that occurs on the property just west of the existing house. This area will be avoided so there will be no impacts to this community type.

The wetlands and the unnamed blue line stream on the property would fall under the jurisdiction of the USACE, the RWQCB and CDFW. Wetlands and streams provide valuable wildlife habitat and other functions and values and are therefore by definition sensitive. These areas will be avoided with a 65- to 85-foot setback and no development will occur in these areas. The wetlands, streams and associated riparian communities will be avoided.

The Napa County General Plan Policy Con-24 addresses removal of oak woodlands. In addition, the Napa County General Plan Open Space and Conservation Element directs the County to retain existing oaks to the extent feasible as part of residential, commercial, industrial and agricultural land division approvals. Projects should include management plans for fishery and wildlife including provisions to employ supplemental planting and maintenance of trees to provide adequate vegetation cover to keep watersheds in good condition and provide shelter and food for wildlife. The Oak Woodland Conservation Program in the Napa County Open Space and Conservation Element requires hardwood cutting to maintain adequate stands of oaks for wildlife, slope stabilization, soil protection, and acorn production. Therefore, the loss of oak woodland habitat will be addressed during the vineyard permitting (Erosion Control Plan (ECP) process. In addition, Napa County General Plan Conservation Goal CON-3 and Policy CON-13 obligates the County to protect the continued presence of special status species and their habitat and provide protection for habitat supporting special status species through buffering or other means. Measure to protect special status species and their habitats are discussed in detail in the following sections.

Special Status Plant Species

Special status plant species are those species that are legally protected under the FESA and/or the CESA as listed or proposed for listing as threatened or endangered, as well as species that are considered rare by the scientific community. For example, the California Native Plant Society (CNPS) has identified some species as List 1 or 2 species and may be considered rare or endangered pursuant to Section 15380(b) of the State California Environmental Quality Act (CEQA) Guidelines. The CDFW has compiled a list of "Special Plants" (CDFW 2022), which include California Special Concern species. These designations are given to those plant species whose vegetation communities are seriously threatened. Although these species may be abundant elsewhere they are considered to be at some risk of extinction in California. Although Special Concern species are afforded no official legal status under FESA or CESA, they may receive special consideration during the planning stages of certain development projects and adverse impacts may be deemed significant under CEQA. In addition, Napa County General Plan Conservation Goal CON-3 and Policy CON-13 obligates the County to protect the continued presence of special status species and their habitat and provide protection for habitat supporting special status species through buffering or other means. The protection of special status plants known to occur, or with the potential to occur, is further discussed below.

A total of 55 special status plant species have been reported to occur on the two topographic quadrangles (CNDDDB 2023). Please refer to Appendix A for a list of these species and their potential for occurrence.

Many species were considered to have no potential to occur either because these species are restricted to areas with serpentinite or alkaline substrates which are lacking within the study area, or the species occurs in habitats not present within the study area such as lower montane coniferous forest, closed-cone coniferous forest, North Coast coniferous forest, bogs and fens, freshwater marsh, brackish or saltwater marshes and swamps, coastal bluff scrub, coastal prairie, and coastal scrub.

Two special status plants were found during the April, May and June protocol level special status plant surveys. These two species are discussed further below.

Napa bluecurls (*Trichostema ruygtii*)
CNPS Rank 1B.2

General Ecology and Distribution: Napa blue curls is an annual herbaceous species in the Mint Family or Lamiaceae. It occurs in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland and vernal pools at elevations from 30 to 680 meters. It flowers from June to October and is very recognizable even without flowers by its highly aromatic odor. It is associated with wetland areas and also occurs in sunny, open areas.

Project Area Occurrence: This species was mapped in two locations, one of which is associated with a wetland area (Fig. 9). There were approximately 100 to 200 plants for both areas combined. Plants associated with the Napa bluecurls include small quaking grass, ryegrass, rabbitsfoot grass, slender rush, lippia, interwoven navarretia, and annual hair grass. A search of the CNDDDB shows records for Napa bluecurls within a 3-mile radius of the property (Appendix B).

Green Monardella (*Monardella viridis*)
CNPS Rank 4

General Ecology and Distribution: Green monardella is a perennial herbaceous plants in the Mint Family or Lamiaceae. It usually occurs on rocky soils in broadleafed upland forest, chaparral and cismontane woodland in elevations ranging from 100 to 1010 meters.

Project Area Occurrence: This species was mapped in one location within a coast live oak woodland community type (Fig. 10). It occurs on a slope just above the access road. There were approximately 100 plants in this area. Other plants in the area included coast live oak, euphorbia, toyon, wild oats, manzanita, European hair grass, ripgut brome and rose clover.

Special Status Animal Species

Special status animal species include those listed by the USFWS (2023) and the CDFW (2023). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act (*e.g.*, bald eagle, golden eagle), the MBTA, and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFW to be species of special concern; these are listed in Shuford and Gardali (2008), Williams (1986), and Thomson et al. 2016). Although such species are afforded no official legal status, they may receive special consideration during the planning and CEQA review stages of certain development projects. The CDFW further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates that a species may not be taken or possessed except under special permit from the CDFW; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

Of the 25 special status animal species identified as potentially occurring in the vicinity of the project area, including a 5-mile radius (CNDDDB 2023), several additional species were evaluated for their potential to occur within the study area, based on: 1) review of the IPaC (USFWS 2023), 2) the "Special Animals" list

(CDFW 2023) that includes those wildlife species whose breeding populations are in serious decline, and 3) the habitat present on site. See Appendix C for a list of the 33 species evaluated.

Several of these species are prominent in today's regulatory environment and are discussed below. This document does not address impacts to species that may occur in the region but for which no habitat occurs on site, such as saltmarsh habitat, or brackish marshes, vernal pools or saline water bodies. See Appendix E for a list of species observed during the 2023 surveys.

Obscure Bumble Bee (*Bombus caliginosus*)

Status: S1S2 (critically imperiled in State but is currently only on watchlist)

Geographic Range: This species occurs along the Pacific Coast, from southern California to southern British Columbia, with scattered records from the east side of California's Central Valley.

General Ecology and Distribution: Analyses suggest very high population decline range-wide, including range size reductions, persistence reductions, and relative abundance declines. *Bombus caliginosus* inhabits open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests. Males patrol circuits in search of mates. This species is classified as a medium long-tongued species, whose food plants include *Ceanothus*, *Cirsium*, *Clarkia*, *Keckiella*, *Lathyrus*, *Lotus*, *Lupinus*, *Rhododendron*, *Rubus*, *Trifolium*, and *Vaccinium* (Williams et al. 2014). Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.

Project Area Occurrence. No surveys were conducted for this species as part of this habitat assessment. Although suitable food plants occur within the vineyard panting area, the removal of 1.0 acres of non-native grassland habitat will not affect the overall population associated with grassland in the Napa County area. In addition, an existing 8.4 acres will remain of native grasslands, undeveloped non-native grassland, meadow, and meadow and rock outcrop area that provide suitable food plants, in the form of *Lathyrus*, *Lupines*, *Lotus*, and *Cirsium*, as well as bare ground for ground nesting.

Foothill Yellow-legged Frog (*Rana boylei*) (FYF)

Status: CDFW Threatened for the Feather River and Northeast/Northern Sierra clades; and Endangered for the East/Southern Sierra, West/Central Coast, and Southwest/South Coast clades; but listing of the Northwest/North Coast clade is not warranted at this time. USFWS Candidate for listing as Threatened.

General Ecology and Distribution: This species typically inhabits rocky streams, preferring streams with cobble sized substrates (Hayes and Jennings 1988). Occupied drainages range from sea level to 2,040 meters (6,700 feet) (Hayes and Jennings 1988). Streams in woodland, chaparral or forest with little to no bank vegetation cover are also preferred (Stebbins 2003). *R. boylei* prefers small to moderate sized streams with at least some cobble-sized substrate and contain water for a minimum of 15 weeks (Thomson et al. 2016).

Project Area Occurrence: No surveys were conducted for this species as part of this habitat assessment. This species has been reported in Redwood Creek, WNW of the City of Napa (CNDDB 2023). The small drainages on the site do not provide suitable aquatic habitat based on their size, type of creek bed and canopy cover. Therefore, no further action is required.

California Red-legged Frog (*Rana draytonii*) (CRF)

Status. Federally listed Threatened with Critical Habitat, California Species of Special Concern.

General Ecology and Distribution. California red-legged frogs breed primarily in ponds, but will also breed in slow moving streams, or deep pools in intermittent streams. Inhabited ponds are typically permanent, at least 2 feet (0.6 meters) in depth, and contain emergent and shoreline vegetation. Sufficient pond depth and shoreline cover are both critical, because they provide means of escape from predators of the frogs (Stebbins

1985, Tatarian 2008). Non-breeding CRF have been found in both aquatic and upland habitats. Although the majority of individuals prefer dense, shrubby or emergent vegetation, closely associated with deep (>0.7 meters) still, or slow moving water, some individuals use habitats that are removed from aquatic habitats (Tatarian 2008).

Project Area Occurrence. No surveys were conducted for this species as part of this habitat assessment. No suitable breeding habitat for CRF occurs on the parcel. The proposed project is within the species range. Review of occurrences within a one-mile radius, as required by the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005), reveals a population has been reported more than 5 miles south near American Canyon (CNDDB 2023). The limitation of the CNDDB however, is that not all private lands have been surveyed for this species. Nevertheless, the lack of suitable breeding habitat on the site and the known occurrences of the species more than 5 miles from the project negates the potential for the species to be impacted by the proposed project. No further action is required.

Nesting Passerines – including California quail (*Callipepla californica*), oak titmouse (*Baeolophus inornatus*), wrentit (*Chamaea fasciata*), western bluebird (*Sialia mexicana*), and woodpeckers, among others
Status: Individuals, their occupied nests and eggs are protected under the Federal Migratory Bird Treaty Act and CDFW Code 3503. Several species are identified as Birds of Conservation Concern (BCC) by the USFWS but are afforded no further protection.

General Ecology and Distribution: As early as February, passerines begin courtship and once paired, they begin nest building, often around the beginning of March. Nest structures vary in shapes, sizes and composition and can include stick nests, mud nests, matted reeds and cavity nests. All structures may be used for nesting, from grasslands to shrubs to trees. Depending on environmental conditions, young birds may fledge from the nest as early as May and, if the prey base is large, the adults may lay a second clutch of eggs.

Project Area Occurrence: No surveys were conducted for these species as part of this habitat assessment because territories and nesting structures may change over the years and an occupancy survey is a snapshot in time. Several passerine (perching birds) species may nest on the site in the various habitats, including, but not limited to, white-breasted nuthatch, oak titmouse (BCC) and western bluebirds in cavities in the trees, as well as wrentit (BCC) in the chamise chaparral and mixed chaparral. At this time there is no mitigation for loss of habitat for nesting birds, only prevention of take of individuals. Approximately five (5) trees are proposed for removal at this time in Block 1 Section B, and they contained cavities and crevices. There are no trees in Block 2 Section B. The non-native grasslands do not provide suitable nesting habitat for ground nesting birds due to the site being mowed (Fig. 8 and 9). See below for further details.

Nesting Raptors – red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*)

Status: Individuals, their occupied nests and eggs are protected under the Federal Migratory Bird Treaty Act and CDFW 3503.5

General Ecology and Distribution: Raptors nest in a variety of substrates including, cavities, ledges and stick nests. For example, Cooper's hawks are small bird hunters, hunting on the edges of forests in broken forest and grassland habitats where passerines forage for seeds and insects. Nests occur in heavily forested areas near a water source. Research sites on nesting Cooper's hawks rarely show the nests more than a quarter of a mile away from water, whether it is a cattle tank, stream or seep (Snyder and Snyder 1975). Trees typically used by Cooper's hawks include coast live oaks, cottonwoods, and black oaks (Call 1978), as well as second growth conifer stands or deciduous riparian areas. Most raptors build stick nests, except for American kestrels that nest in cavities. In general, the breeding season for raptors occurs in late March through June, depending on the climate, with young fledging by early August.

Project Area Occurrence: No surveys were conducted for these species as part of this habitat assessment because territories and nesting structures may change over the years and an occupancy survey is a snapshot

in time. A female sharp-shinned hawk was observed on site (Appendix F). Foraging habitat for raptors, such as red-shouldered hawk, among others, occurs throughout the parcel. No evidence of raptor nesting was observed in the five trees proposed for removal. At this time there is no mitigation for loss of habitat for nesting birds, only prevention of take of individuals. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of nesting birds on this site.

Northern Spotted Owl (*Strix occidentalis caurina*)

Status: federally Threatened species, like other raptors and birds in general, is protected by the MBTA falls under California Code 3503.5, which prohibits the taking or destroying of nest or eggs of any bird or nest in the order of Falconiformes (falcons, kites, and hawks) and Strigiformes (owls).

Description: This species is medium sized, approximately 16.5-19 inches in height with a 40-50 inch wingspan, and lacks ear tufts, typically seen in great horned owls (*Bubo virginianus*). The head and upper parts are an overall brown with irregular white spots. The under parts are buff with brown and white ovals or barring. This species lacks the vertical chest and flank streaking of its close relative the Barred owl (*Strix varia*).

General Ecology and Distribution: This species is an uncommon permanent resident in heavily forested areas in the northwestern portion of California and in the Sierra Nevada, west of the Cascade Range. Typical habitats for this species include dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats. Summer roosts in California have been noted on northwest or northeast inclinations, on slopes over 35%, and in stands with tall (65 foot) conifer canopy (Laymon, et al. 1985), although spotted owls may be found in younger forest stands that have the structural characteristics of older forests or retained structural elements from the previous forest (USFWS 2011). In redwood forests and mixed conifer-hardwood forests along the coast of northwestern California, considerable numbers of spotted owls also occur in younger forest stands, particularly in areas where hardwoods provide a multilayered structure at an early age (USFWS 2011). Prey species include flying squirrels, woodrats, mice and voles as well as small birds and bats. It is thought that the northern spotted owl relieves heat stress through bathing and therefore requires a permanent water source (Zeiner, et al. 1990). Spotted owls nest in platforms built by other animals, requiring a minimum area ranging from 81 to 121 hectares for a nest stand (Laymon, et al. 1985). An understory vegetation layer is important for young fledglings as they leave the nest before they can fly and perch on small trees and shrubs. The majority of foraging occurs within 3.2 km radius of the nest site.

Project Area Occurrence. No focused northern spotted owl surveys were conducted for this Biological Assessment. As a result, the potential for a special-status animal species to occur in the project area was assessed based on reported occurrences in the vicinity of and habitats within the project area. The limitation of relying on reported occurrences is that not all lands have been surveyed for their occupancy of special status species.

The study area is located on the Napa and Mt George 7.5-minute USGS topographic quadrangles and, after querying the two topographic quadrangles that comprise a 5-mile radius, no northern spotted owl locations were identified from the CNDDDB (CNDDDB 2023). No trees proposed for removal provide suitable nesting habitat for northern spotted owl.

Roosting bats – including pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillei*) and hoary bat (*Lasiurus cinereus*).

Within California, 25 bats species occur. Eleven of California's 25 bat species are classified as SSC (CDFW 2015). One SSC bat species that often roosts in structures or suitable trees in those areas where they occur is the pallid bat (*Antrozous pallidus*). Removal of occupied roosts without prior humane eviction or other actions approved by the CDFW would result in "take", defined under the CESA as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill".

In addition to the Proposed Endangered and SSC bat species above, non-SSC species are also afforded consideration under the California Environmental Quality Act (CEQA), primarily when significant local breeding populations may be impacted. This includes two more common and widely-distributed bat species, Yuma myotis (*Myotis yumanensis*) and Brazilian free-tailed bat (*Tadarida brasiliensis*), which can form very large colonies, often in features such as those found in buildings.

General Ecology and Distribution: Bats in this region of California are not active year-round. During the maternity season, non-volant young of colonial bats remain in the roost until late summer (end of August), after which they may disperse from the natal roost or remain into or throughout the winter. Obligate tree-roosting bat species, and to some extent, colonial bats, may switch tree roosts frequently, particularly after young are volant, but are sometimes faithful for longer periods (weeks). During winter months, bats typically enter torpor, rousing only occasionally to drink water or opportunistically feed on insects. The onset of torpor is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provided a means of escape from the roost.

California bats include colonial and solitary roosting species. Colonial bats are those that roost in groups of dozens to many thousands. Pallid bats, an SSC species, are eclectic in their roosting habitat selection, and to some extent distribution, and can be found in crevices and small cavities in rock outcrops, tree hollows, mines, caves, and a wide variety of man-made structures such as buildings, bridges and culverts, generally in lower to mid-elevation sites. This species forms maternity colonies, composed of dozens to sometimes hundreds of females and their young, and smaller bachelor colonies composed of males and not-yet reproductive females. Non-SSC species, include Brazilian free-tailed bats (*Tadarida brasiliensis*), Yuma myotis (*Myotis yumanensis*), big brown bat (*Eptesicus fuscus*), and other *Myotis* species. These species may form significant local breeding populations in roosts of sufficient size, which usually occur in buildings, bridges or culverts, but occasionally in large tree hollows.

Obligate tree-roosting bats include western red bat (*Lasiurus blossevillii*), another SSC species that could occur in the study area, as well as a non-SSC species, the hoary bat (*Lasiurus cinereus*). *L. blossevillii* roosts in tree foliage, typically in large-leaved trees such as cottonwood (*Populus fremontii*), oaks (*Quercus* sp.), ash (*Fraxinus* sp.) and elder (*Acer* sp.) (Anderson and Geluso 2018), but also in orchards where suitable canopy density occurs and in non-native trees, such as eucalyptus trees (Pierson et al. 2006). Suitable potential tree canopy habitat is present on the Copeland Creek bank restoration project site for both species. *L. blossevillii* females generally roost singly, with 2-6 pups, during maternity season, but sometimes they will roost in clusters of other females and pups. Obligate tree-roosting bat species, and to some extent, colonial bats, may switch tree roosts more frequently than larger, more stable roosts such as building, bridges, caves and mines, particularly after young are volant, but there is evidence that this species is often faithful to selected trees (Anderson and Geluso 2018, Wyatt, pers. comm. 2007).

Project Area Occurrence: Several oaks contained suitable potential cavity, crevice and/or exfoliating bark roost features which are suitable for SSC bat species such as pallid bats, as well as non-SSC species. Approximately five trees are proposed for removal at this time and contain cavities and crevices. However, not all trees within each habitat were surveyed for suitable potential habitat because habitats change over time and a survey at this time would be a snapshot of what is present. At this time there is no mitigation for loss of habitat for roosting bats, only prevention of take of individuals.

In addition to cavity, crevice, and exfoliating bark roost features that can support colonial bat species, dense canopy that provides suitable potential roost habitat for *L. blossevillii* and *L. cinereus* within the western portion of the project site. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of roosting bats in trees on this site.

Recovery Units

The California red-legged frog has a recovery plan that spans southeastern portion of Napa County and the proposed project area is located outside the North San Francisco Bay Recovery unit for this species (USFWS 2002).

A revised recovery plan for the northern spotted owl was created in 2011. The action area is located within the California Coast physiographic province.

Critical Habitat

USFWS-designated Critical Habitat for California red-legged frog occurs in two discrete areas in Napa County (USFWS 2010). The proposed project area is outside the Critical Habitat Unit Napa 1.

IMPACTS AND MITIGATION MEASURES

This section summarizes the potential temporary biological impacts from activities related to the development of a new vineyard within the study area. The analysis of these impacts is based on a single reconnaissance-level survey of the study area, a review of existing databases and literature, and personal professional experience with biological resources of the region.

CEQA Guidelines Sections 15206 and 15380 were used to determine impact significance. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state.

A species may be treated as rare or endangered even if it has not been listed under CESA or FESA. Species are designated endangered when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, disease or other factors.

For the purposes of this report, three principal components in the evaluation were considered:

- Magnitude of the impact (e.g., substantial/not substantial)
- Uniqueness of the affected resource (rarity)
- Susceptibility of the affected resource to disturbance (sensitivity)

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small-magnitude impact (e.g., disturbing a nest) to a state or federally listed species would be considered significant because the species is at low population levels and is presumed to be susceptible to disturbance. Conversely, a common habitat such as non-native grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact (e.g., removal of extensive vegetation) would be required for it to be considered a significant impact.

Waters of the U.S. and State, Including Wetlands

One unnamed blueline stream was mapped for the property/study area (see Biology Retention Exhibit). This is a perennial to intermittent stream and is an unnamed tributary to Murphey Creek. The stream and any identified wetlands, including the meadows, will be avoided and a 65- to 85-foot setback (based on slope) established between this community type and any proposed development. Since these areas will be avoided no mitigation is required.

The wetlands identified on the site, including the seep wetlands along the access road, will be avoided with a 50-foot setback from any development, therefore no mitigation is required.

Special Status Vegetation Community

Valley needlegrass grassland occurs on the property to the west of the existing house and developed area. This area is not proposed for any development and will be avoided.

The coast live oak woodland on the site does not have a formal ranking as special status vegetation communities. However, the Napa County General Plan Policy Con-24 addresses removal of oak woodlands. In addition, the Napa County General Plan Open Space and Conservation Element directs the County to retain existing oaks to the extent feasible as part of residential, commercial, industrial and agricultural land division approvals. Projects should include management plans for fishery and wildlife including provisions to employ supplemental planting and maintenance of trees to provide adequate vegetation cover to keep watersheds in good condition and provide shelter and food for wildlife. The Oak Woodland Conservation Program in the Napa County Open Space and Conservation Element requires hardwood cutting to maintain adequate stands of oaks for wildlife, slope stabilization, soil protection, and acorn production. Table 3 and the attached Biology Retention Exhibits shows the acreage of each vegetation type that will be removed as part of the proposed vineyard development.

Mitigation Measure: Compensation for the loss of oak woodland would be in the form of preservation of oak woodland and other habitats on the site. Table 3 presents the amount of acreage preserved per community.

Table 3: Vegetation Community and Acreages Removed and Preserved as a Percentage of the Total Acreage of Each Vegetation Type on the Parcel.

	Acreages		Percentage of Total Acreage	
Vegetation Community	Removed by Vineyard Development	Preserved	Removed	Retained
coast live oak woodland habitat	0.2	19.1	1%	99%
coast live oak riparian	0	4.2	0%	100%
chamise chaparral	0	14.0	0%	100%
non-native grassland	1.1	1.3	46%	54%
Valley needlegrass grassland	0	0.2	0%	100%
meadow	0	0.8	0%	100%
Wetlands (including seeps)	0	0.1	0%	100%
Developed/landscaped	0	0.8	0%	100%

Special Status Plants

Two special status plants were observed during the March to July surveys conducted for the site. These are Napa bluecurls and green monardella.. The population of Napa bluecurls associated with the mapped wetland in the central portion of the property will be protected by a 50-foot buffer from any development. The Napa bluecurls population north of the central one and the green monardella population south of Block 1 will have a 10-foot buffer from the clearing limits and an additional 10-foot buffer for the vineyard road which will be a grassy lane for a total of 20-feet from any vineyard planting. The current access road above Block 1 will not be used for vineyard development and only for personal use as it is currently used by the property owner. The current use has not adversely impacted the existing populations.

Mitigation Measure: The following avoidance and protection measures will be implemented during construction:

- A botanist familiar with these two species will flag the areas prior to any ground disturbance during the time when these plants are identifiable which would be anywhere from June to September/October.
- An orange barrier fence will be placed around the Napa bluecurls and green monardella plant populations to protect them from any disturbance and to keep out any vehicles or equipment.
- The fencing will be removed after development is completed and the botanist will return to verify that the populations are undisturbed and the designated buffer zones have been established and maintained.

Special Status Wildlife

Invertebrates

Although two native bees pollinators have a moderate potential to occur on the site, based on the habitats present, a sufficient amount of habitat will remain after the proposed vineyard planting that will not cause a decrease in the number of individuals in this portion of Napa County.

Recommendation

Planting of native hedgerows will benefit native bees. Species to be used include blue elderberry (*Sambucus nigra*) and Western redbud (*Cercis occidentalis*) along riparian corridors, and California fuchsia (*Epilobium canum*) and coyote bush (*Baccharis pilularis*), among others, in the upland habitats (Vaughan, et al. 2015). The native manzanitas, madrones and toyons are also bee food.

Birds

Project Direct Impacts: Several passerine (perching birds) species observed on site, such as woodpeckers, oak titmouse and western bluebirds, build nests in cavities in the oak trees. Other species, such as the blue-gray gnatcatcher and wrentit, will build stick nests in chamise. Although none of these species are federal or State listed species or State fully protected, two species, oak titmouse and wrentit, are Birds of Conservation Concern, but are afforded no further protection beyond the MBTA and CDFW 3503. At this time there is no mitigation for loss of habitat for nesting birds, only prevention of take of individuals. Disturbance during the nesting season (February 15- August 15) may result in the potential nest abandonment and mortality of young, which is considered a “take” of an individual.

Mitigation Measure: The following mitigation measures should be followed in order to avoid or minimize impacts to passerines that may potentially nest in the trees:

- 1) Removal of nesting trees should be conducted outside the nesting season, which occurs between approximately February 15 and August 15.
- 2) If removal between August 15 and February 15 is infeasible and removal must occur within the nesting season, a pre-construction nesting bird survey of the trees shall be performed by a qualified biologist within 7 days of ground breaking. If no nesting birds are observed no further action is required and tree removal shall occur within one week of the survey to prevent “take” of individual birds that could begin nesting after the survey.
- 3) If active bird nests are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist.
- 4) The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFW.

- 5) To delineate the buffer zone around a nesting tree, orange construction fencing shall be placed at the specified radius from the base of the tree within which no machinery or workers shall intrude.
- 6) After the fencing is in place there will be no restrictions on grading or vineyard development outside the prescribed buffer zones.

Bats

Project Direct Impacts: Removal of trees in any of the habitats may cause direct mortality of roosting bats, if the trees provide suitable roosting habitat and are removed during seasonal periods of inactivity (maternity season or winter). At this time there is no mitigation for loss of roosting habitat, only prevention of take of individuals.

Preventing Take of Tree-roosting Bats – General Discussion

As with those bats that roost in buildings, colonial bats that roost in trees are seasonally inactive (e.g. non-volant young during maternity season or torpid bats during winter months). Unlike with buildings however, bats cannot readily be humanely evicted from trees. This is because many trees have numerous cavities, crevices, or large areas of exfoliating bark that cannot be fitted with one-way exits, or cannot even be safely worked on due to poor condition or lack of accessibility. This is particularly true of snags due to their extremely poor condition, however snags provide some of the most preferred and substantial bat tree roost habitat.

Conducting visual cavity surveys is only rarely possible due to difficulty with access and number of trees and night emergence surveys of potential roost trees is generally only feasible logistically and economically, where a few habitat trees occur, because only 1-2 trees can be surveyed each night per observer. Also, because bats tend to switch tree roosts more frequently than more stable roosts such as caves, mines, rock outcrops, buildings, bridges, or culverts, negative results have extremely limited temporal validity (24-48 hours), which would result in multiple mobilizations by tree cutters in order to remove trees immediately after a negative survey. In the event a tree is found to be occupied, a method for safely getting the bats out of the tree will still be needed.

A method that provides the most reasonable and cost-effective opportunity for bats to abandon the roost tree prior to cutting, which has been in use for over ten years, is the two-step method, *conducted over two consecutive days*, and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on Day 1. The noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed, to not return to the roost that night. The remainder of the tree is removed the following day - Day 2.

Two-step tree removal must only occur during seasonal periods of bat activity as described above; however, there are certain, limited exceptions, such as when the roost features can be visually surveyed and absence of bats can be determined, or when the roost features do not provide suitable maternity or overwintering habitat (e.g. shallow crevices in bark or wood). In a small percentage of trees, there are accessible cavities which could support colonial roosts, a visual inspection using fiber optic or video probes could be conducted outside the seasonally restricted periods, to permit removal at that time, if no bats are present. If all roost features can be completely surveyed, the entire tree may be removed in one action, making two-step removal unnecessary.

Two-step removal of bat habitat trees must only be conducted during seasonal periods of bat activity, which are in this region, between March 1 (or after evening temperatures rise above 45°F and/or no more than 0.5" of rainfall within 24 hours occurs), and April 15 before the maternity season, or between August 31 and October 15 (or before evening temperatures fall below 45°F and/or more than 0.5" of rainfall within 24 hours occurs) before the winter hibernation season.

Project Mitigation: To prevent take of individual roosting bats a bat habitat assessment of the trees to be removed should be conducted by a qualified bat biologist no more than 1 year in advance of the proposed project, but no less than 14 days in advance. Specific recommendations based on the habitats on the site will be made to prevent direct impacts to individuals that may be roosting on the site, such as removing the habitat outside of the maternity season and the winter season.

Wildlife Movement Corridors

Full development out of this site into vineyard will not occur. The proposed vineyard blocks, with associated fencing, will only be up to a total of 1.3 acres in size and will be easily circumnavigated if fences are installed around the perimeter of each vineyard block as provided in the ECP. As a result, no impacts to movement corridors for wildlife will occur.

REFERENCES

- ANDERSON, B. AND K. GELUSO. 2018. ROOST CHARACTERISTICS AND CLUSTERING BEHAVIOR OF WESTERN RED BATS (*LASIURUS BLOSSEVILLII*) IN SOUTHWESTERN NEW MEXICO. WESTERN NORTH AMERICAN NATURALIST, 78(2), 174-183.
- BAICICH, P. AND C. HARRISON. 1997. A GUIDE TO NESTS, EGGS AND NESTLINGS OF NORTH AMERICAN BIRDS. SECOND EDITION. NATURAL WORLD ACADEMIC PRESS. SAN DIEGO. 347 PP.
- BALDWIN, B. G. (CONVENING EDITOR); EDITORS, D. H. GOLDMAN, D.J. KEIL, R. PATTERSON, T.J. ROSATTI, D.H. WILKEN. 2012. THE JEPSON MANUAL: VASCULAR PLANTS OF CALIFORNIA. UNIVERSITY OF CALIFORNIA PRESS, BERKELEY AND LOS ANGELES, CA.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 1988B. CALIFORNIA'S WILDLIFE - AMPHIBIANS AND REPTILE. VOLUME I. CALIFORNIA DEPARTMENT OF FISH AND GAME. EDITORS, ZEINER, D.C., W.F. LAUDENSLAYER, JR., AND K.E. MAYER.
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2022A. SPECIAL VASCULAR PLANTS, BRYOPHYTES, AND LICHENS LIST. NATURAL DIVERSITY DATA BASE, HABITAT CONSERVATION DIVISION. APRIL.
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2023B. STATE AND FEDERALLY LISTED ENDANGERED, THREATENED, AND RARE PLANTS OF CALIFORNIA. NATURAL DIVERSITY DATA BASE, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH. APRIL.
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2023C. SPECIAL ANIMALS. NATURAL DIVERSITY DATA BASE, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH. APRIL.
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2023D. STATE AND FEDERALLY LISTED ENDANGERED AND THREATENED ANIMALS OF CALIFORNIA. NATURAL DIVERSITY DATA BASE, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH. APRIL.
- CALIFORNIA DEPARTMENT OF FISH & WILDLIFE (CDFW). 2023. CALIFORNIA NATURAL COMMUNITY LIST. WWW.WILDLIFE.CA.GOV/DATA/VEGCAMP/NATURAL-COMMUNITIES. FEBRUARY.
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2015. CALIFORNIA STATE WILDLIFE ACTION PLAN, 2015 UPDATE: A CONSERVATION LEGACY FOR CALIFORNIANS. CHAPTER 5.1 NORTH COAST AND KLAMATH PROVINCE. EDITED BY ARMAND G. GONZALES AND JUNKO HOSHI, PHD. PREPARED WITH ASSISTANCE FROM ASCENT ENVIRONMENTAL, INC., SACRAMENTO, CA.
- CALIFORNIA NATIVE PLANT SOCIETY (CNPS). 1998. MITIGATION GUIDELINES REGARDING IMPACTS TO RARE, THREATENED AND ENDANGERED PLANTS.
- CALIFORNIA NATURAL DIVERSITY DATA BASE (CNDDB). 2023. REPORTED OCCURRENCES FOR THE NAPA AND MT. GEORGE 7.5-MINUTE TOPOGRAPHIC QUADRANGLES. WILDLIFE CONSERVATION DIVISION. SACRAMENTO, CALIFORNIA. MARCH.
- CALL, MAYO W. 1978. NEST SURVEYS. TECHNICAL NOTES-316. BUREAU OF LAND MANAGEMENT. ENVIRONMENTAL LABORATORY. 1987. CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1. U.S. ARMY CORPS OF ENGINEERS ENVIRONMENTAL LABORATORY, WATERWAYS EXPERIMENT STATION, VICKSBURG, M.S.
- GRINNELL, J. AND A. MILLER. 1944. THE DISTRIBUTION OF THE BIRDS OF CALIFORNIA. ARTEMISIA PRESS, LEE VINING, CALIFORNIA.
- HICKMAN, J.C. 1993. THE JEPSON MANUAL: HIGHER PLANTS OF CALIFORNIA. UNIVERSITY OF CALIFORNIA PRESS, BERKELEY, CALIFORNIA. 1400 PP.
- JENNINGS, M.R. AND M.P. HAYES. 1994. AMPHIBIAN AND REPTILE SPECIES OF SPECIAL CONCERN IN CALIFORNIA. PREPARED FOR THE CALIF. DEPT. OF FISH AND GAME INLAND FISHERIES DIV. RANCHO CORDOVA, CALIF. NOVEMBER 1. 255 PP.
- JONES & STOKES. 2005. NAPA COUNTY BASELINE DATA REPORT: VERSION 1. CONTRIBUTORS: NAPA COUNTY CONSERVATION, DEVELOPMENT, AND PLANNING DEPT., JONES & STOKES, EDAP, INC. NOVEMBER 30.
- MAYER, K.E. AND W. F. LAUDENSLAYER, JR. EDS. 1988. A GUIDE TO WILDLIFE HABITATS OF CALIFORNIA. CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION. SACRAMENTO. 166 PP.
- MCCULLOUGH, D. 1996. METAPOPULATIONS AND WILDLIFE CONSERVATION. ISLAND PRESS. 429PP.
- NAPA COUNTY. 2009. NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, NAPA COUNTY WATERSHED MAP. WWW.COUNTYOFNAPA.ORG.

- SAWYER, JOHN O., TODD KEELER-WOLF, JULIE M EVENS. 2008. A MANUAL OF CALIFORNIA VEGETATION. SECOND EDITION. CALIFORNIA NATIVE PLANT SOCIETY PRESS, SACRAMENTO, CA. 1300 PAGES.
- SHUFORD, W. D., AND GARDALI, T., EDITORS. 2008. CALIFORNIA BIRD SPECIES OF SPECIAL CONCERN: A RANKED ASSESSMENT OF SPECIES, SUBSPECIES, AND DISTINCT POPULATIONS OF BIRDS OF IMMEDIATE CONSERVATION CONCERN IN CALIFORNIA. STUDIES OF WESTERN BIRDS 1. WESTERN FIELD ORNITHOLOGISTS, CAMARILLO, CALIFORNIA, AND CALIFORNIA DEPARTMENT OF FISH AND GAME, SACRAMENTO.
- SPENCER, W.D., P. BEIER, K. PENROD, K. WINTERS, C. PAULMAN, H. RUSTIGIAN-ROMSOS, J. STRITTHOLT, M. PARISI, AND A. PETTLER. 2010. CALIFORNIA ESSENTIAL HABITAT CONNECTIVITY PROJECT: A STRATEGY FOR CONSERVING A CONNECTED CALIFORNIA. PREPARED FOR CALIFORNIA DEPARTMENT OF TRANSPORTATION, CALIFORNIA DEPARTMENT OF FISH AND GAME, AND FEDERAL HIGHWAYS ADMINISTRATION.
- THOMSON, R.C., A. W. WRIGHT AND H. B. SHAFFER. 2016. CALIFORNIA AMPHIBIAN AND REPTILE SPECIES OF SPECIAL CONCERN. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE AND UNIVERSITY OF CALIFORNIA PRESS. XV + 390 PP.
- TOBIN, D.P. 2001. INVENTORY OF RARE AND ENDANGERED VASCULAR PLANTS OF CALIFORNIA. CALIFORNIA NATIVE PLANT SOCIETY, SACRAMENTO, CALIFORNIA. SPECIAL PUBLICATION NO. 1, SIXTH ED. 384 PP.
- U.S. ARMY CORPS OF ENGINEERS. 2008. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: ARID WEST REGION. FINAL REPORT. VICKSBURG, MS. U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER. DECEMBER.
- U.S. FISH AND WILDLIFE SERVICE (USFWS). 2023. INFORMATION ON PLANNING AND CONSERVATION (IPAC) AS OF 3/21/2023.
- U.S. FISH AND WILDLIFE SERVICE (USFWS). 2021. BIRDS OF CONSERVATION CONCERN 2021. UNITED STATES DEPARTMENT OF INTERIOR, FISH AND WILDLIFE SERVICE, DIVISION OF MIGRATORY BIRD MANAGEMENT, ARLINGTON, VIRGINIA. 48 PP. [ONLINE VERSION AVAILABLE AT < [HTTPS://WWW.FWS.GOV/MEDIA/BIRDS-CONSERVATION-CONCERN-2021/](https://www.fws.gov/media/birds-conservation-concern-2021/)>].
- VAUGHAN, M., J. HOPWOOD, E. LEE-MÄDER, M. SHEPHERD, C. KREMEN, A. STINE, AND S. HOFFMAN BLACK. 2015. FARMING FOR BEES, GUIDELINES FOR PROVIDING NATIVE BEE HABITAT ON FARMS. THE XERCES SOCIETY FOR INVERTEBRATE CONSERVATION. 84 PP.
- WHITTAKER, R. 1998. ISLAND BIOGEOGRAPHY: ECOLOGY, EVOLUTION AND CONSERVATION. OXFORD UNIVERSITY PRESS. 285PP.
- WILLIAMS, P., R. THORP, L. RICHARDSON, AND S. COLLA. 2014. BUMBLE BEES OF NORTH AMERICA. PRINCETON, NJ. PRINCETON UNIVERSITY PRESS. WWW.BUMBLEBEE.ORG/NORTHAMERICA.
- WILLIAMS, D.F. 1986. MAMMALIAN SPECIES OF SPECIAL CONCERN IN CALIFORNIA. CALIFORNIA DEPARTMENT OF FISH AND GAME. WILDLIFE MANAGEMENT DIVISION ADMINISTRATIVE REPORT 86-1. 112 PP.
- THE XERCES SOCIETY FOR INVERTEBRATE CONSERVATION, DEFENDERS OF WILDLIFE, CENTER FOR FOOD SAFETY. 2018. A PETITION TO THE STATE OF CALIFORNIA FISH AND GAME COMMISSION TO LIST THE CROTCH BUMBLE BEE (*BOMBUS CROTCHII*), FRANKLIN'S BUMBLE BEE (*BOMBUS FRANKLINI*), SUCKLEY CUCKOO BUMBLE BEE (*BOMBUS SUCKLEYI*), AND WESTERN BUMBLE BEE (*BOMBUS OCCIDENTALIS*) AS ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT. OCTOBER. 119 PP.
- ZEINER, D., W. LAUDENSLAYER, K. MAYER, AND M. WHITE. 1990. CALIFORNIA'S WILDLIFE. VOLUME III. MAMMALS. CALIFORNIA STATEWIDE WILDLIFE HABITAT RELATIONSHIPS SYSTEM. STATE OF CALIFORNIA, THE RESOURCES AGENCY, DEPT. OF FISH AND GAME, SACRAMENTO, CALIF.
- PERSONAL COMMUNICATIONS
- WYATT, D. PHD. 2007. BAT RESEARCHER, SACRAMENTO CITY COLLEGE. PERSONAL COMMUNICATION WITH TRISH TATARIAN, BIOLOGIST/OWNER WILDLIFE RESEARCH ASSOCIATES. FEBRUARY.

QUALIFICATIONS OF BIOLOGISTS

Jane Valerius is a plant ecologist and wetlands specialist with more than 40 years of highly professional experience both in conducting field studies and in managing projects. Ms. Valerius is proficient in conducting vegetation and biotic surveys, rare plant surveys, and wetland delineations. Ms. Valerius has designed mitigation monitoring plans for wetlands, habitat restoration plans for endangered species and prepared environmental impact assessments to support development of public works projects, residential communities, landfill and mining expansion, and energy and water resource facilities.

- ⇒ Master of Science, Range Ecology, Colorado State University, Fort Collins, CO, May 1982 with emphasis in plant taxonomy, plant ecology and mined land reclamation
- ⇒ Bachelor of Arts, Environmental Biology, University of Colorado, Boulder, CO, December 1977 with classes in plant taxonomy and plant ecology.
- ◆ Conducted ecological, botanical and wetland studies in California, Oregon, Nevada, Idaho, Colorado, Wyoming, Utah, Arizona, and North Dakota.
- ◆ Specialize in flora of the western United States; conducted special status plant surveys according to California Department of Fish and Game protocol for Marin, Sonoma, Mendocino, Napa, Solano, Contra Costa, Alameda, San Joaquin, Merced, Fresno, Butte, Eldorado, Sacramento, Yolo, and other counties.
- ◆ Extensive experience with wetland delineations, permitting, mitigation plans, creation and construction of wetlands, including vernal pools.
- ◆ Work with the San Francisco, Sacramento and Los Angeles U. S. Army Corps of Engineers districts. Experience with NEPA/CEQA.
- ◆ Prepare restoration, revegetation, and reclamation plans. Prepare exotic pest plant control plans.
- ◆ Monitor environmental compliance of mining operations, transmission line, and residential development projects.
- ◆ Active in professional organizations including past Director-at-Large for the Society for Ecological Restoration (1994-1997), member of the California Native Plant Society.

Trish Tatarian is a seasoned biologist, with 30 years of experience working as project manager and technical biologist for consulting firms in the environmental consulting field. Co-founder of Wildlife Research Associates, Trish has been an independent wildlife consultant since 2001. She has built consensus with agency personnel and a variety of clients ranging from federal agencies to independent developers. Trish is a widely-experienced general ecologist, who focuses on conducting surveys for special status amphibians, birds, and mammals, conducting vegetation community and wildlife habitat characterization, and aerial photograph interpretation.

- ◇ M.Sc., Biology, Sonoma State University 2005
- ◇ B.S., Ecology, San Francisco State University 1992
- Holder of a 10(A)1(a) USFWS permit, since 1998, and a CDFW Scientific Collecting permit, since 1992, with a permit for foothill yellow-legged frog (*Rana boylei*)
- Conducts research on the federally-listed Threatened California red-legged frog (*Rana draytonii*) and the Endangered Sonoma County population of the California tiger salamander (*Ambystoma californiense*).
- Between 2013 and 2018 taught 16 Workshops on California Red-legged Frog Biology in Santa Cruz, Livermore, Elkhorn Slough and Auburn
- Conducts presence absence surveys for California red-legged frog, California tiger salamander, foothill yellow-legged frog, western pond turtle, as well as construction monitoring. Has prepared numerous site Assessments, Biological Assessment, Mitigation and Monitoring plans and Habitat Conservation Plans
- Conducts nesting passerine and raptor surveys, bat habitat assessments and emergence surveys Experienced with CEQA/NEPA and has strong working relationship with various divisions of the USFS, USFWS and CDFW.

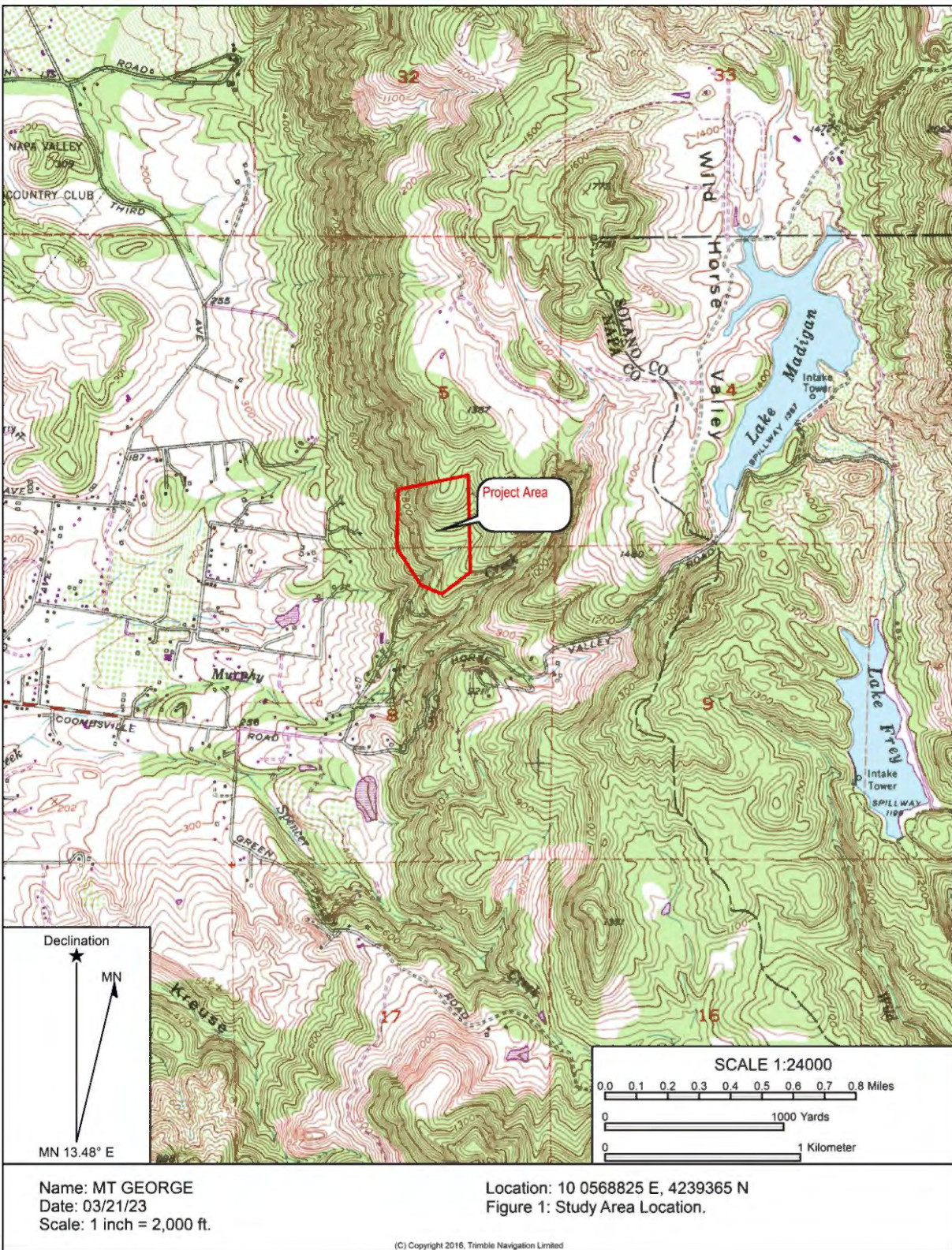


Figure 1: Project Location.



Figure 2: Coast live oak woodland above meadow with rocks.



Figure 3: Coast live oak riparian.



Figure 4: Chamise chaparral.



Figure 5: Non-native grassland overlooking coast live oak riparian.



Figure 6: Valley needlegrass grassland.



Figure 7: Wetlands near planting area.



Figure 8: Landscaping near house.



Figure 9: Napa bluecurls



Figure 10: Green monardella.

Appendix A: Potentially Occurring Special Status Plant Species in the Study Area

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
<i>Agrostis hendersonii</i> Henderson's bent grass	/-/3	Valley and foothill grassland (mesic), vernal pools. Blooms April to June. Elevation: 70-305m.	P	N	None. There is mesic grassland in the form of meadow habitat on site. This species was not observed during protocol surveys and is not likely to occur.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	-/-1B	Cismontane woodland, valley and foothill grassland on clay, volcanic soils; often on serpentinite. Blooms May to June. Elevation 52-300m.	P	N	None. There is potential oak woodland and grassland habitat on site. This species was not observed during protocol surveys and is not likely to occur. There is no serpentinite on the property.
<i>Arabis modesta</i> Modest rockcress	-/-/4	Chaparral, lower montane coniferous forest. Blooms March to July. Elevation: 120-800m.	P	N	None. Potential chaparral habitat on site. Not observed during surveys.
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	-/-/1B	Playas, grassland (adobe clay), vernal pools (alkaline). Blooms March-June. Elevation: 1-60m.	A	N	None. No vernal pools or habitat on site. The property is not in the elevational range of the species.
<i>Brodiaea leptandra</i> Narrow-anthered brodiaea	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland on volcanic soils. 110-915m elevation. Blooms May-July.	P	N	None. Potential habitat on site but not observed during surveys. The common <i>Brodiaea</i> <i>elegans</i> was observed.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
<i>Calandrinia breweri</i> Brewer's calandrinia	-/-/4	Chaparral and coastal scrub on sandy or loam soils and in disturbed sites and burns. Blooms March to June. Elevation: 10-1220m.	P	Y	This species was observed outside of the property boundary in a rock outcrop meadow type community which is not present within the study area but will be reported to the CNDDDB.
<i>Castilleja ambigua</i> var. <i>ambigua</i> Johnny-nip	-/-/4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Blooms March to August. Elevation: 0-435m.	A	N	None. Typical habitat not present on site. This is coastal species.
<i>Ceanothus purpureus</i> Holly-leaved ceanothus	-/-/1B	Chaparral, cismontane woodland on volcanic or rocky soils. 120-640m elevation. Blooms February-June.	P	N	None. Potential habitat on site but not observed during surveys. This is a shrub species and easily identifiable.
<i>Centromadia parryi</i> ssp. <i>rudis</i> Parry's rough tarplant	-/-/4	Valley and foothill grassland, vernal pools, in alkaline soils, vernal mesic sites and seeps. Blooms May to October. Elevation: 0-100m.	A	N	None. No habitat on site – no alkaline soils. The property is not within the elevational range of the species.
<i>Clarkia gracilis</i> ssp. <i>tracyi</i> Tracy's clarkia	-/-/4	Openings in chaparral, sometimes on serpentinite. 65-650m elevation. Blooms April-July	P	N	None. Potential habitat on site but not observed during surveys. No serpentine.
<i>Downingia pusilla</i> Dwarf downingia	-/-/2B	Mesic valley and foothill grassland, vernal pools. 1-445m elevation. Blooms March-May.	A	N	None. No vernal pools or mesic grassland. . Typical habitat not present on site. Not observed during surveys.
<i>Eleocharis parvula</i> Small spikerush	-/-/4	Marshes and swamps. Blooms April to September. Elevation: 1-3020m.	A	N	None. No habitat on site. Not observed during surveys.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
<i>Erigeron bioletti</i> Streamside daisy	-/-/3	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest on rocky and mesic sites. Blooms June-October. Elevation 30-1100m.	P	N	None. There is potential oak woodland habitat on site. This species was not observed during protocol surveys and is not likely to occur.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	-/-/1B	Chaparral on serpentinite or volcanic soils. 80-1005m elevation. Blooms May-September.	A	N	None. No serpentine. Typical habitat not present on site. Not observed during surveys.
<i>Erythronium helenae</i> St. Helena fawn lily	-/-/4	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Blooms March to May. Elevation: 350-1220m.	P	N	None. There is potential chaparral, oak woodland and grassland habitat on site. This species was not observed during protocol surveys and is not likely to occur.
<i>Etriplex joaquinana</i> San Joaquin spearscale	-/-/1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland in alkaline soils. Blooms April to October. Elevation: 1-835m.	A	N	Low. No habitat on site – no alkaline soils.
<i>Harmonia nutans</i> Nodding harmonia	-/-/4	Chaparral, cismontane woodland on rocky, gravelly or volcanic soils. 75-975m elevation. Blooms March-May.	P	N	None. Potential habitat on site but not observed during surveys.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	-/-/1B	Chaparral on serpentinite. 60-1005m elevation. Blooms May-July.	A	N	None. No serpentine.
<i>Hesperolinon breweri</i> Brewer's western flax	-/-/1B	Chaparral, cismontane woodland, valley and foothill grassland usually on serpentinite. Blooms May to July. Elevation: 30-945m.	A	N	None. No serpentine- typical habitat not on site.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE/-/1B	Cismontane woodland, alkaline playas, valley and foothill grassland, vernal pools. 0-470m elevation. Blooms March-June.	A	N	None. No habitat on site – no vernal pools or alkaline areas.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	-/-/1B	Freshwater and brackish marshes and swamps. Blooms May to September. Elevation: 0-5m.	A	N	None. No habitat on site. The property is not within the elevational range of the species.
<i>Leptosiphon aureus</i> Bristly leptosiphon	-/-/4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Blooms April to July. Elevation: 55-1500m.	P	N	None. There is potential chaparral, oak woodland and grassland habitat on site. This species was not observed during protocol surveys and is not likely to occur.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	-/-/1B	Chaparral, cismontane woodland, usually volcanic. 100-500m elevation. Blooms March-May.	P	N	None. There is potential chaparral and oak woodland habitat on site. This species was not observed during protocol surveys.
<i>Lessingia hololeuca</i> Woolly-headed lessingia	-/-/3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentinite. Blooms June-October. Elevation: 15-305m.	A	N	None. Typical habitat not on site. There is no clay or serpentinite soils that would support this species. Not observed during surveys.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	-/CR/1B	Brackish or freshwater marshes and swamps, riparian scrub. Blooms April to November. Elevation: 0-10m.	A	N	None. No habitat on site. The property is not within the elevational range of the species.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
<i>Lilium rubescens</i> Redwood lily	-/-/4	Broadleafed upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest, sometimes serpentine, sometimes roadsides. Blooms April to September. Elevation: 30-1910m.	A	N	None. Typical habitat not on site. Not observed during surveys.
<i>Lomatium repostum</i> Napa lomatium	-/-/4	Chaparral, cismontane woodland on serpentine. 90-830m elevation. Blooms March-June.	A	N	None. No serpentine on site. Not observed during surveys.
<i>Monardella viridis</i> Green monardella	-/-/4	Broadleafed upland forest, chaparral, cismontane woodland. 100-1010m elevation. Blooms June-September.	P	y	Present. One small population has been mapped for the site. This area will be avoided.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	-/-/4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools. 15-470m elevation. Blooms February-May.	A	N	None. Typical habitat not present on site. . Not observed during surveys.
<i>Rhynchospora californica</i> California beaked-rush	-/-/1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Blooms May to July. Elevation: 45-1010m.	A	N	None. No habitat on site. . Not observed during surveys.
<i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom	-/-/1B	Chaparral on rhyolitic soils. Blooms April-June. Elevation: 415-610m.	A	N	None. No habitat on site – no rhyolitic soils. . Not observed during surveys.
<i>Symphotrichum lentum</i> Suisun Marsh aster	-/-/1B	Brackish and freshwater marshes and swamps. Blooms April to November. Elevation: 0-3m.	A	N	None. No habitat on site. The property is not within the elevational range of the species.

<i>Scientific Name</i> Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
<i>Trichosema ruygtii</i> Napa bluecurls	-/-/1B	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Blooms June to October. Elevation: 30-680m.	P	Y	Present. Two populations of this species were mapped for the site. These areas will be avoided.
<i>Trifolium amoenum</i> Two-fork clover	FE/-/1B	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite. Elevation: 5-415m. Blooms April-June.	A	N	None. Typical habitat not present on site for this species. Not observed during surveys.
<i>Trifolium hydrophilum</i> Saline clover	-/-/1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. April-June. Elevation: 0-300m.	A	N	None. No habitat on site – no alkaline soils, mesic grasslands or vernal pools. Not observed during surveys.
<i>Triteleia lugens</i> Dark-mouthed triteleia	-/-/4	Broadleaved upland forest, chaparral, coastal scrub, lower montane coniferous forest. Blooms: April to June. Elevation: 100-1000 m.	A	N	None. No habitat on site – no alkaline soils, mesic grasslands or vernal pools. Not observed during surveys.
<i>Viburnum ellipticum</i> Oval-leaved viburnum	-/-/2B	Chaparral, cismontane woodland, lower montane coniferous forest. Blooms May to June. Elevation: 215-1400m.	P	N	None. Potential chaparral habitat on site. Not observed during surveys. Not likely to occur.
<i>Special Status/Sensitive Natural Communities</i>					
<i>Northern Vernal Pool</i>			A	N	None
<i>Valley Needlegrass Grassland</i>			P	Y	Present on property. One population was mapped.

NOTES:

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered

FT = federally listed Threatened

CE = California listed Endangered

CR = California listed as Rare

CT = California listed as Threatened

CALIFORNIA DEPT. OF FISH AND WILDLIFE

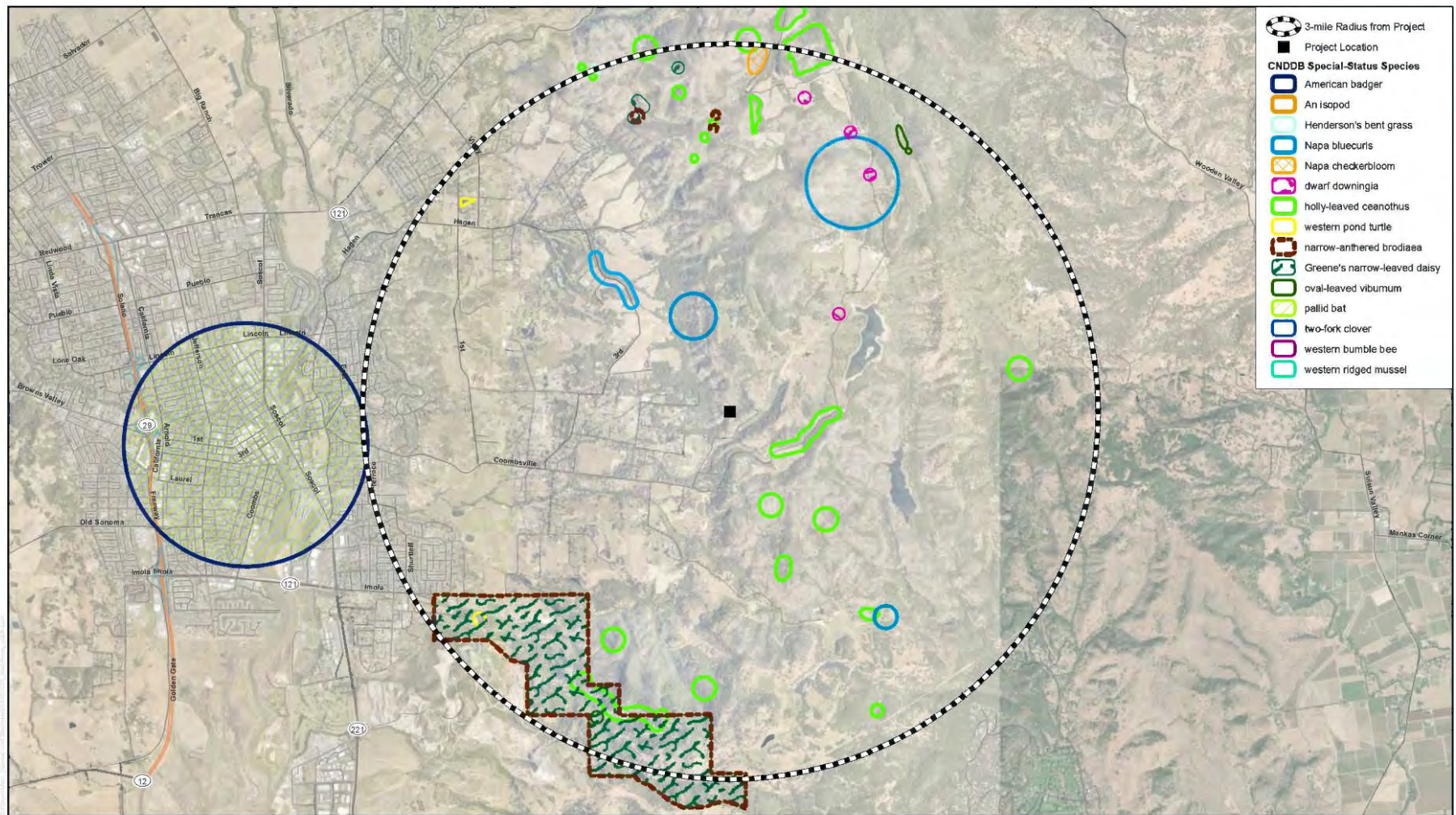
CALIFORNIA NATIVE PLANT SOCIETY -

Rank 1B: Plants rare and endangered in California and elsewhere

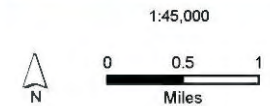
Rank 2B: Plants rare and endangered in California but more common elsewhere.

Rank 3: Plants about which more information is needed – a review list.

Rank 4: Plants of limited distribution – a watch list.



California Natural Diversity Database Occurrences (CNDDDB) -
 3-mile Radius Plant and Wildlife Occurrences
 1260 Shady Brook Lane, Napa County, CA



APPENDIX B: Mapped occurrences of special status plant and animal species

Appendix C: Potentially Occurring Special Status Animal Species in the Project Area

Common Name <i>Scientific Name</i>	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
Invertebrates					
Western bumblebee <i>Bombus occidentalis</i>	-/-	Generalist foragers. They do not depend on any one flower type but they favor Melilotus, Cirsium, Trifolium, Centaurea, Chrysothamnus, Eriogonum. Historically from the Pacific coast to the Colorado Rocky Mountains; severe population decline west of the Sierra-Cascade Crest.	P	No	Moderate: several food plants occur on site.
monarch butterfly <i>Danaus plexippus</i>	FCT/*	Roosts during winter migration in dense stands of large trees such as eucalyptus and Monterey pines that provide shelter from the wind. Roosts in groves close to nectar and water sources.	A	N	None: no suitable habitat.
An isopod <i>Calasellus californicus</i>	-/-	Inhabits localized fresh-water ponds or streams with still or near still water.	A	N	None: no suitable habitat.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/-	Riparian and oak savanna habitats. Requires elderberry (<i>Sambucus mexicanus</i>) as host plants. Inhabits streamsides in the Central Valley below 3,000 feet.	A	N	None: no suitable habitat.
Western ridged mussel <i>Gonidea angulata</i>	-/-	Reported from Napa River or Napa Creek.	A	N	None: no suitable habitat.
California freshwater shrimp <i>Syncaris pacifica</i>	FE/SE	Endemic to Napa, Sonoma and Marin Counties. Occurs in low elevation and low gradient perennial streams with moderate to heavy riparian cover.	A	N	None: no suitable habitat.
Fish					
steelhead - Central California Coast DPS <i>Onchorhynchus mykiss</i>	FT/-	Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	A	N	None – no suitable habitat.

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
Longfin smelt <i>Spirinchus thaleichthys</i>	FC/ST	Pacific coast of North America from Sacramento-San Joaquin estuary and (extirpated?). Well documented declines in California. Spawns in sandy-gravel, rock, or aquatic plants, Dec. – Feb. in CA, in coastal waters near shore, bays, estuaries, and rivers. Some populations anadromous close to ocean.	A	N	None: no suitable habitat.
Amphibians					
California giant salamander <i>Dicamptodon ensatus</i>	-/-	Known from wet coastal forests near streams and seeps. Larvae found in cold, clear streams and adults knowns from wet forests under rocks and logs near streams and lakes.	A	N	None: no suitable habitat.
foothill yellow-legged frog – North Coast <i>Rana boylei</i>	SSC	Inhabits permanent, flowing stream courses with a cobble substrate and a mixture of open canopy riparian vegetation.	A	N	None: no suitable habitat.
California red-legged frog <i>Rana draytonii</i>	FT/SSC	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland habitat especially during the wet winter months.	A	N	None: no suitable habitat.
Reptiles					
western pond turtle <i>Emys marmorata marmorata</i>	SC/ SSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires upland sites for egg-laying.	A	N	None: no suitable habitat.
Birds (All birds are protected under the MBTA)					
sharp-shinned hawk <i>Accipiter striatus</i>	/ WL	Dense canopy pine or mixed conifer forest and riparian habitats. Water within one mile required.	P	Y	High: Observed on site.
Clark's grebe <i>Aechmophorus clarkii</i>	BCC	Breeds in colonies on large bodied freshwater lakes and marshes with emergent vegetation. Nest is built on floating plants or submerged snag, among emergent vegetation.	A	N	None: no suitable habitat.
Western grebe <i>Aechmophorus occidentalis</i>	BCC	Breeds in colonies on large bodied freshwater lakes and marshes with emergent vegetation. Nest is built on floating plants or submerged snag, among emergent vegetation.	A	N	None: no suitable habitat.

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
tricolored blackbird <i>Agelaius tricolor</i>	BCC/ ST	Nests primarily in dense freshwater marshes with cattail or tules, but also known to nest in upland thistles. Forages in grasslands. Needs nesting area large enough to support a minimum of 50 pairs.	A	N	None: no suitable nesting habitat.
golden eagle <i>Aquila chrysaetos</i>	-/FP	Forages in a variety of habitats including grasslands, chaparral and oak woodland supporting abundant mammals. Nests on cliffs and escarpments and tall trees.	A	N	None: no suitable nesting habitat.
Oak titmouse <i>Baeolophus inornatus</i>	BCC/ -	Breeds in cavities in oak woodlands, gleaning insects from the bark. Occurs from southern Oregon to northern Mexico along the Central Valley and xeric coastal foothills.	P	Y	High: suitable nesting habitat present. Several individuals heard.
Swainson's hawk <i>Buteo swainsoni</i>	BCC/ST	Nests in scattered trees in open areas, with nests usually high in the tree. Nests are reused annually and are made of sticks, with a diameter of 21-28 inches.	A	N	None: no suitable nesting habitat.
Lawrence's goldfinch <i>Carduelis lawrencei</i>	BCC/	Nests in open woodlands, chaparral and weedy fields in trees with a source of freshwater. Small flocks settle in productive nesting areas.	P	N	High: suitable nesting habitat present.
Cassin's finch <i>Carpodacus cassinii</i>	BCC	Nests in mature conifer forests between 3,000 and 10,000 ft of elevation.	A	N	None: no suitable nesting habitat.
Wrentit <i>Chamaea fasciata</i>	BCC	Nests in coastal scrub and chaparral.	P	N	High: suitable habitat outside project area.
olive-sided flycatcher <i>Contopus borealis</i>	BCC/ SSC	Nests in open conifer or mixed oak woodland. Nests on horizontal branches, among a cluster of twigs and needles.	P	N	High: suitable nesting habitat present.
black swift <i>Cypseloides niger</i>	BCC/SSC	Nests made of moss bound with mud or simply a cushion of grass or bare mud, are often built on small ledges with overhanging moss or grass near seashore and waterfalls.	A	N	None: no suitable nesting habitat.

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
White-tailed kite <i>Elanus leucurus</i>	MB/CFP	Inhabits low rolling foothills and valley margins with scattered oaks and river bottom- lands or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows and marshes for foraging close to isolated, dense-topped trees for nesting and perching.	A	N	None: no suitable nesting habitat.
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC/SSC	Nests in fresh and salt marshes in tall grasses, tule patches and willows and forages in thick, continuous cover down to the water surface.	A	N	None: no suitable nesting habitat.
bald eagle <i>Haliaeetus leucocephalus</i>	BCC/CE, CFP	Nests in tall snags near water and forages on fish. This species winters near large bodies of waters with fish.	A	N	None: no suitable nesting habitat.
Bullock's oriole <i>Icterus bullockii</i>	BCC	Breeds in riparian and open woodlands, with trees that are large and spaced apart. Gourd shaped nest placed at ends of branches.	A	N	None: no suitable nesting habitat.
Short-billed dowitcher <i>Limnodromus griseus</i>	BCC/-	Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes. Found in freshwater mud flats and flooded agricultural fields.	A	N	None: no suitable nesting habitat.
Marbled godwit <i>Limosa fedoa</i>	BCC	Breeds in marshes and flood plains on the ground.	A	N	None: no suitable nesting habitat.
Black-crowned night heron <i>Nycticorax nycticorax</i>	/-	Nests in saltmarshes, freshwater marshes, swamps, streams, rivers, lakes, ponds, lagoons, tidal mudflats, canals, reservoirs, and wet agricultural fields. Nests situated in trees or in cattails in colonial nest tree.	A	N	None: no suitable nesting habitat.
Belding's savannah sparrow <i>Passerculus sandwichensis beldingi</i>	BCC	Nests in pickleweed salt marshes that occur on the outer levees of salt ponds.	A	N	None: no suitable nesting habitat.
Spotted towhee <i>Pipilo maculatus clementae</i>	BCC	Nests in shrubs and trees.	P	Y	High: suitable nesting habitat present

Common Name <i>Scientific Name</i>	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC/-	Found primarily in oak woodlands and riparian woods. Cavity nester.	P	N	High: suitable nesting habitat present.
bank swallow <i>Riparia riparia</i>	MB/ST	Nests in banks along rivers, excavating holes in sides of the banks.	A	N	None: no suitable habitat present.
Allen's hummingbird <i>Selasphorus sasin</i>	BCC/-	Nests in wooded areas, meadows, or thickets along shaded streams, on a branch low down on stem, although placement height varies between 10 inches and 90 feet.	P	N	Moderate: suitable habitat present.
northern spotted owl <i>Strix occidentalis caurina</i>	FT, BCC/CT	Dense coniferous and hardwood forest, shaded, steep sided canyons.	A	N	None: no suitable habitat present.
California thrasher <i>Toxostoma redivivum</i>	BCC	Nests in Lowland and coastal chaparral, and riparian woodland thickets.	P	No	High: suitable nesting habitat present
Willet <i>Tringa semipalmata</i>	BCC	In winter, willets feed on beaches and rocky coasts, as well as mudflats and marshes. During breeding season the western population moves far inland to nest in grasslands and prairies near freshwater.	A	N	None: no suitable habitat present.
Mammals					
pallid bat <i>Antrozous pallidus</i>	-/SSC	Day roosts in crevices and cavities in rock outcrops, mines, caves, buildings, bridges, as well as hollows and cavities in a wide variety of tree species. May roost alone, in small groups (2 to 20 bats), or in 100s in maternity roosts, with males and non-reproductive subadults in other, smaller roosts.	P	N	Moderate: suitable roosting habitat present.
Western red bat <i>Lasiurus blossevillei</i>	-/SSC, WBWG:H	Solitary roosting, except when females are with young (from 2 to 6 are born). Roosts almost exclusively in foliage, under overhanging leaves, in woodland borders, rivers, agricultural areas including orchards, and urban areas with mature trees. Typically found in large cottonwoods, sycamores, walnuts and willows associated with riparian habitats.	P	N	High: suitable roosting habitat present.

Common Name <i>Scientific Name</i>	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Habitat Present/Absent	Observed During Survey?	Potential for Occurrence
Hoary bat <i>Lasiurus cinereus</i>	-/-, WBWG:M	Roosts singly except when females are with young (from 2 to 4 are born) in dense foliage of medium to large coniferous and deciduous trees.	P	N	High: suitable roosting habitat present.
fringed myotis <i>Myotis thysanodes</i>	-/-, WBWG:H	Roosts colonially, up to 2,000 individuals. Females form maternity roosts, give birth to one young. Roosts in rock crevices, caves, mines, buildings and bridges, as well as tree hollows, particularly large conifer snags. May hibernate or use intermittent torpor.	A	N	None: no suitable habitat on site.
Yuma Myotis <i>Myotis yumanensis</i>	-/-, WBWG:M	Forms often large maternity colonies, females giving birth to one young. Primarily a crevice roosting species in natural habitat, forms large maternity colonies in large spaces in man-made roosts, e.g. buildings. Also uses bridges, caves, mines, tree cavities, bat houses, abandoned swallow nests, exfoliating bark.	P	N	Moderate: suitable roosting habitat present.
American badger <i>Taxidea taxus</i>	-/SSC	Inhabits open grasslands, savannas and mountain meadows near timberline. Requires abundant burrowing mammals, their principal food source, and loose, friable soils.	A	N	None: no suitable habitat on site. No burrows or ground squirrels observed.

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened
FC = federal candidate for listing
BCC = Bird of Conservation Concern

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered
CCE = California Candidate for listing as Endangered
CT = California listed as Threatened
CCT = California Candidate for listing as Threatened
CFP = California fully protected species
SSC = Species of Special Concern

**Appendix D: Plant species observed at 1260 Shady Brook Lane, Napa –
March 15, April 27, May 16 and July 13, 2023.**

Scientific Name	Common Name
<i>Acer</i> sp.	Maple-planted ornamental*
<i>Achillea millefolium</i>	yarrow
<i>Achyrrachaena mollis</i>	Blow wives
<i>Acmison glaber</i>	Deerweed
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus
<i>Acmispon brachycarpus</i>	Short-podded lotus
<i>Acmispon parviflorus</i>	Small flowered trefoil
<i>Adenostema fascicularis</i>	Chamise
<i>Aesculus californica</i>	California buckeye
<i>Agave</i> sp.	Agave* -planted ornamental
<i>Agoseris grandiflora</i> var. <i>grandiflora</i>	Grand mountain dandelion
<i>Agoseris retrorsa</i>	Spear leaved agoseris
<i>Aira caryophylla</i>	European hair grass*
<i>Allium neapolitanum</i>	White garlic*
<i>Allium schoenoprasum</i>	Chives*
<i>Aloe</i> sp.	Aloe-garden plant*
<i>Amsinckia intermedia</i>	Common fiddleneck
<i>Anaphalis margaritacea</i>	Pearly everlasting
<i>Arbutus menziesii</i>	Madrone
<i>Arctostaphylos canescens</i> ssp. <i>canescens</i>	Hoary manzanita
<i>Arctostaphylos manzanita</i> var. <i>manzanita</i>	Common manzanita
<i>Artemisia douglasiana</i>	Mugwort
<i>Baccharis pilularis</i>	Coyote brush
<i>Brachypodium distachyon</i>	Purple false brome
<i>Brassica nigra</i>	Black mustard*
<i>Briza minor</i>	Small quaking grass*
<i>Brodiaea elegans</i>	Elegant brodiaea
<i>Bromus caroli-henrici</i>	Weedy brome*
<i>Bromus catharticus</i> var. <i>elatus</i>	Rescue grass*
<i>Bromus diandrus</i>	Ripgut brome*
<i>Bromus hordaeceus</i>	Soft chess*
<i>Bromus laevipes</i>	Narrow flowered brome
<i>Bromus madritensis</i>	Red brome*
<i>Calandrinia breweri</i>	Brewer's calandrinia CNPS Rank 4 species
<i>Calochortus amabilis</i>	Golden fairy lantern
<i>Calycanthus occidentalis</i>	Spicebush
<i>Calystegia purpurata</i> var. <i>purpurata</i>	Smooth western morning glory
<i>Cardamine californica</i>	Milk maids
<i>Carduus pycnocephalus</i>	Italian thistle*
<i>Carex barbarae</i>	Santa Barbara sedge
<i>Castilleja attenuata</i>	Narrow leaved owl's clover
<i>Ceanthus foliosus</i> ssp. <i>foliosus</i>	Wavy-leaved ceanothus
<i>Centaurea melitensis</i>	Tocalote
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Cerastium glomeratum</i>	Large mouse ears*
<i>Chlorogalum pomeridianum</i>	Soaproot
<i>Cicendia quadrangularis</i>	Common microcalis
<i>Cirsium vulgare</i>	Bull thistle*
<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	Purple clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Collinsia heterophylla</i> var. <i>heterophylla</i>	Purple collinsia

Scientific Name	Common Name
<i>Collinsia sparsiflora</i> ssp. <i>sparsiflora</i>	Few flowered collinsia
<i>Cortedaria jubata</i>	Pampas grass-planted ornamental*
<i>Crassula connata</i>	Sand pygmy weed
<i>Croton setiger</i>	Dove weed*
<i>Cynoglossum grande</i>	Hound's tongue
<i>Cynosurus echinatus</i>	Dogtail grass*
<i>Daucus carota</i>	Queen Anne's lace*
<i>Delphinium variegatum</i> ssp. <i>variegatum</i>	Royal larkspur
<i>Deschampsia danthonioides</i>	Annual hair grass
<i>Dichelostema congestum</i>	Fork toothed ookow
<i>Dichelostemma congestum</i>	Fort toothed ookow
<i>Diplacus aurantiacus</i>	Sticky monkeyflower
<i>Dipterostemon capitatus</i> ssp. <i>capitatus</i>	Blue dics
<i>Echium candicans</i>	Pride of madeira* - planted ornamental
<i>Eleocharis macrostachya</i>	spikerush
<i>Elymus glaucus</i>	Blue wildrye
<i>Eriodictyon californica</i>	Yerba santa
<i>Erodium</i> spp.	Filaree*
<i>Erythranthe guttata</i>	Seep monkeyflower
<i>Eschscholzia californica</i>	California poppy
<i>Eucalyptus</i> sp.	Blue gum*
<i>Euphorbia</i> sp.	Euphorbia – planted ornamental and invasive*
<i>Festuca myuros</i>	Rattail fescue*
<i>Festuca perennis</i>	Ryegrass*
<i>Galium aparine</i>	Bedstraw*
<i>Galium porrigens</i> var. <i>porrigens</i>	Climbing bedstraw
<i>Gamochaeta ustulate</i>	Featherweed
<i>Gastridium nitidum</i>	Nitgrass*
<i>Geranium dissectum</i>	Cut-leaf geranium*
<i>Geranium molle</i>	Crane's bill geranium*
<i>Geranium robertianum</i>	Robert's geranium*
<i>Gilia tricolor</i>	Bird's eyes
<i>Gratiola ebracteata</i>	Common hedge hyssop
<i>Healianthella californica</i>	California sunflower
<i>Heracleum maximum</i>	Common cow parsnip
<i>Heteromeles arbutifolia</i>	Toyon
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Hare barley*
<i>Hypochaeris radicata</i>	Rough cat's-ear*
<i>Iris macrosiphon</i>	Ground iris
<i>Juncus bufonius</i>	Toad rush
<i>Juncus effusus</i>	Pacific rush
<i>Juncus tenuis</i>	Slender rush
<i>Juncus xiphioides</i>	Iris-leaved rush
<i>Juniperus</i> sp.	Juniper – planted ornamental*
<i>Lamium purpureum</i>	Purple dead nettle*
<i>Lasthenia gracilis</i>	goldfields
<i>Lathyrus cicera</i>	Red peavine*
<i>Lathyrus vestitus</i>	Common Pacific pea
<i>Leontodon saxitilis</i>	Hawbit*
<i>Lepidium nitidum</i>	Pepperweed
<i>Leptosiphon bicolor</i>	True babystars
<i>Leptosiphon parviflorus</i>	Variable linanthus
<i>Lewisia rediviva</i>	Bitterroot
<i>Linum bienna</i>	Flax*
<i>Lithophragma affine</i>	Woodland star

Scientific Name	Common Name
<i>Logfia gallica</i>	Narrowleaf cottonrose*
<i>Lomatium dasycarpum</i> ssp. <i>dasycarpum</i>	Woolly-fruited lomatium
<i>Lonicera hispidula</i>	Honeysuckle
<i>Luzula comosa</i> var. <i>comosa</i>	Congested wood rush
<i>Lysimachia arvensis</i>	Scarlet pimpernel*
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife*
<i>Madia elegans</i>	Common madia
<i>Malus</i> sp.	Apple*
<i>Matricaria matricarioides</i>	Pineapple weed
<i>Melica californica</i>	California melic
<i>Melilotus officinalis</i>	Yellow sweet clover*
<i>Micropus californica</i>	Q-tips
<i>Monardella viridis</i>	Green monardella CNPS Rank 4
<i>Narcissus</i> sp.	Daffodil-garden
<i>Navarretia intertexta</i> var. <i>intertexta</i>	Interwoven navarretia
<i>Navarretia pubescens</i>	Purple navarretia
<i>Nemophila heterophylla</i>	Canyon nemophila
<i>Oenanthe sarmentosa</i>	Water parsley
<i>Olea europea</i>	Olive*
<i>Opuntia</i> sp.	Cactus- planted ornamental*
<i>Osmorhiza occidentalis</i>	Sweet cicely
<i>Oxalis pes capre</i>	Bermuda buttercup*
<i>Parentucellia viscosa</i>	Yellow parentucellia*
<i>Pentagramma triangularis</i>	Goldback fern
<i>Perideridia kelloggii</i>	Kelloggi's yampa
<i>Petrohagia dubia</i>	Windmill pink*
<i>Phacelia distans</i>	Common phacelia
<i>Phalaris aquatica</i>	Harding grass*
<i>Phyla nodiflora</i>	Common lippia
<i>Plagiobothrys nothofulvus</i>	Rusty haired popcorn flower
<i>Plantago erecta</i>	Erect plantain
<i>Plantago lanceolata</i>	English plantain*
<i>Poa annua</i>	Annual bluegrass*
<i>Poa pratensis</i>	Kentucky bluegrass*
<i>Poa secunda</i>	Pine bluegrass
<i>Polygonum aviculare</i>	Knotweed*
<i>Polypodium californica</i>	California polypody
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass*
<i>Pseudognaphalium microcephalum</i>	Wright's cudweed
<i>Psilocarphus brevissimus</i>	Woolly marbles
<i>Quercus agrifolia</i>	Coast live oak
<i>Ranunculus occidentalis</i>	Western buttercup
<i>Raphanus sativus</i>	Wild radish*
<i>Rhagadiolus stellatus</i>	Endive daisy*
<i>Rhamnus californica</i>	Coffeeberry
<i>Rhamnus crocea</i>	redberry
<i>Rosemaria officinalis</i>	Rosemary*
<i>Rubus armeniacus</i>	Himalayan blackberry*
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i>	Curly dock*
<i>Russelia equisetiformis</i>	Firecracker plant-planted ornamental*
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sanicula bipinnata</i>	Poison sanicle
<i>Sanicula bipinnatifida</i>	Purple sanicle
<i>Sanicula crassicaulis</i>	Pacific sanicle

Scientific Name	Common Name
<i>Sanicula tuberosa</i>	Tuberous sanicle
<i>Sedella pumila</i>	Sierra mock stonecrop
<i>Senecio vulgaris</i>	Common groundsel*
<i>Sequoia sempervirens</i>	Redwood
<i>Sidalcea hartwegii</i>	Hartweg's checkerbloom
<i>Silene gallica</i>	Common catchfly*
<i>Silybum marianum</i>	Milk thistle*
<i>Sisyrinchium bellum</i>	Blue-eyed grass
<i>Sonchus asper</i>	Prickly sow thistle*
<i>Stachy ajugoides</i>	Hedge nettle
<i>Stellaria media</i>	Chickweed*
<i>Stipa pulchra</i>	Purple needlegrass
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	Common snowberry
<i>Taraxacum officinale</i>	Dandelion*
<i>Thysanocarpus curvipes</i>	Common fringe pod
<i>Torilis arvensis</i>	Field hedge parsley*
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Toxicoscordion fremontii</i>	Fremont's star lily
<i>Trichostema ruygtii</i>	Napa bluecurls -CNPS Rank 1B
<i>Trifolium depauperatum</i> var. <i>depauperatum</i>	Dwarf bladder clover
<i>Trifolium dubium</i>	Shamrock clover*
<i>Trifolium hirtum</i>	Rose clover*
<i>Trifolium subterraneum</i>	Subterranean clover*
<i>Trifolium wildenovii</i>	Tomcat clover
<i>Tritelia hyacinthina</i>	Wild hyacinth
<i>Typha latifolia</i>	cattails
<i>Umbellularia californica</i>	California bay laurel
<i>Uropappus lindleyi</i>	Silver puffs
<i>Veronica persica</i>	Bird's eye speedwell*
<i>Vicia sativa</i>	Spring vetch*
<i>Woodwardia fimbriata</i>	Chain fern
<i>Wyethia glabra</i>	Smooth mule ears
<i>Zantedeschia aethiopica</i>	Calla lily*
<i>Zeltnera muehlenbergii</i>	Muehlenberg's centaury

* = Non-native species

Appendix E – Mosses and Lichens observed April to June 2023.

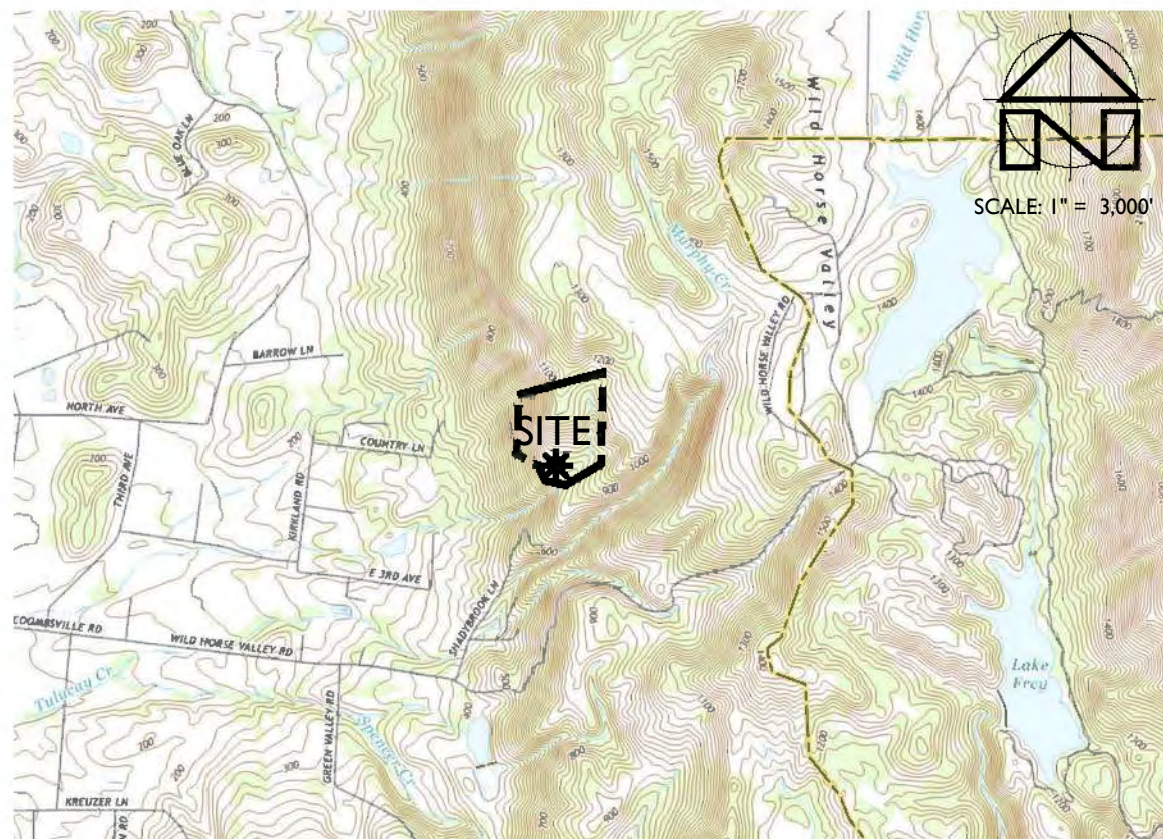
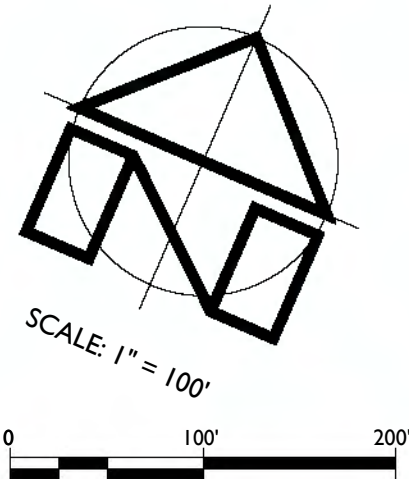
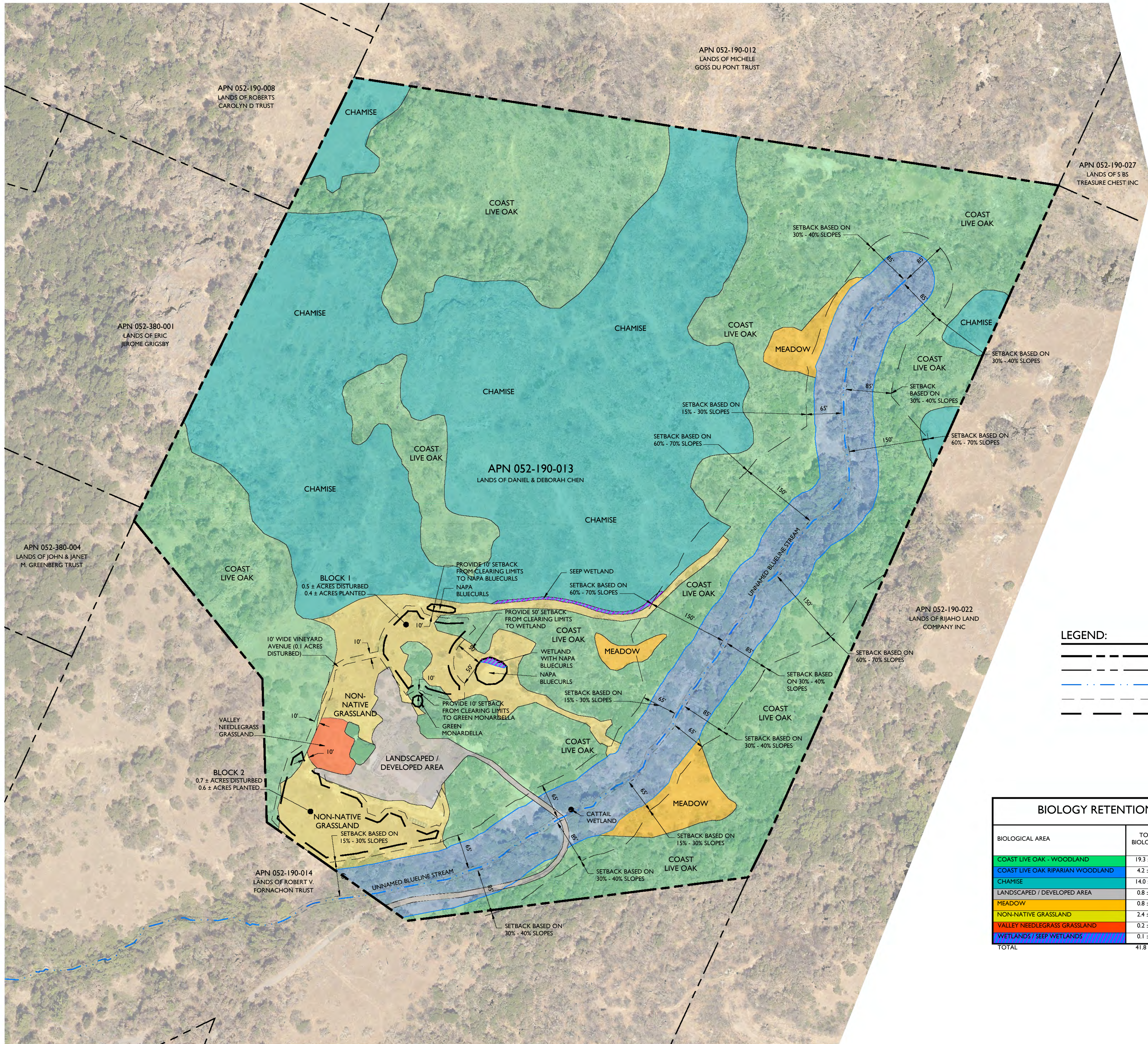
Scientific Name	Common Name
<i>Antitrichia californica</i>	Antitrichia - moss
<i>Bartramia aprica</i>	Rigid apple moss
<i>Evernia prunastri</i>	Oakmoss
<i>Grimmia laevigata</i>	Dry rock moss
<i>Grimmia lisae</i>	Lisa's grimmia
<i>Imbribryum torenii</i>	Imbribryum - moss
<i>Parmelia sulcata</i>	Shield lichen
<i>Parmelina quercina</i>	Parmelia – foliose lichen
<i>Physcia adscendens</i>	Physcia - lichen
<i>Pulviger a papillosa</i>	Pulviger a - moss
<i>Ramalina farinacea</i>	Farinose cartilage lichen
<i>Scleropodium californicum</i>	Scleropodium - moss
<i>Xanthoparmelia cumberlandia</i>	Xanthoparmilia - lichen
<i>Xanthoria hasseana</i>	Xanthoria - lichen

**Appendix F: Wildlife Species Observed at 1260 Shady Brook Lane, Napa –
March 15 and April 27, 2023.**

Species Observed		Habitats in which Observed (O) or Potential (P)				
Scientific Name	Common Name	Oak Woodland	Riparian	Chamise	Annual grassland	Perennial Grassland
Amphibian						
<i>Pseudacris regilla</i>	Pacific treefrog	O	P		P	
<i>Taricha torosa</i>	California newt		O			
Reptile						
<i>Pituophis catenifer</i>	Gopher snake	O		P	P	P
<i>Plestiodon skiltonianus</i>	Western skink	P		O	P	P
Birds						
<i>Accipiter striatus</i>	Sharp-shinned hawk	P		O		
<i>Aphelocoma californica</i>	Western scrub jay	O	P	P		
<i>Baeolophus inornatus</i>	Oak titmouse	O	P			
<i>Buteo jamaicensis</i>	Red-tailed hawk	O				
<i>Callipepla californica</i>	California quail	P	P	O		
<i>Calypte anna</i>	Anna's hummingbird	O	P	O		
<i>Cathartes aura</i>	Turkey vulture	O				
<i>Colaptes auratus</i>	Northern flicker	O				
<i>Corvus brachyrhynchos</i>	American crow	O				
<i>Cyanocitta stelleri</i>	Stellar's jay	O	P			
<i>Junco hyemalis</i>	Dark-eyed junco	O	P	P		
<i>Leiothlypis celata</i>	Orange-crowned warbler	O		O		
<i>Melospiza crissalis</i>	California towhee	O	P	O		
<i>Pipilo maculatus</i>	Spotted towhee	O	P	O		
<i>Psaltiriparus minimus</i>	Bushtit	P	P	O		
<i>Sayornis nigricans</i>	Black phoebe	O	P			
<i>Sialia mexicana</i>	Western bluebird	O		P		
<i>Zenaidura macroura</i>	Mourning dove	P		O	P	P
Mammals						
<i>Mephitis mephitis</i>	Striped skunk (sign)	P		P	P	P
<i>Odocoileus hemionus</i>	Deer (sign)	O		O	O	O
<i>Thomomys bottae</i>	Botta's pocket gopher (sign)	P		O	O	O
<i>Sus scrofa</i>	Feral pigs (sign)	O		O	O	P
<i>Urocyon cinereoargenteus</i>	Grey fox (sign)	P		P	P	P

1260 SHADYBROOK LANE

BIOLOGY RETENTION EXHIBIT - LAND COVER



LOCATION MAP

SCALE: 1" = 3,000'

PROJECT INFORMATION:

PROPERTY OWNER & APPLICANT:

DANIEL & DEBORAH CHEN
1453 DRAKE AVENUE
BURLINGAME, CA 94010

SITE ADDRESS:

1260 SHADYBROOK LANE
NAPA, CA 94558

ASSESSOR'S PARCEL NUMBER:

052-190-013

PARCEL SIZE:

41.8 ± ACRES

ZONING:

AGRICULTURAL WATERSHED (AW)

FLOOD HAZARD NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 06055C050E, EFFECTIVE SEPTEMBER 26, 2008, THE PROJECT SITE IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA.

NOTES:

- AERIAL PHOTOGRAPHS WERE OBTAINED FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM (GIS) DATABASE, TAKEN APRIL TO JUNE 2018 AND MAY NOT REPRESENT CURRENT CONDITIONS.
- THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

LEGEND:

BIOLOGICAL COMMUNITIES

- COAST LIVE OAK WOODLAND (19.3 ± AC)
- COAST LIVE OAK RIPARIAN WOODLAND (4.2 ± AC)
- CHAMISE (14.0 ± AC)
- LANDSCAPED / DEVELOPED AREA (0.8 ± AC)
- MEADOW (0.8 ± AC)
- NON-NATIVE GRASSLAND (2.4 ± AC)
- VALLEY NEEDLEGRASS GRASSLAND (0.2 ± AC)
- WETLANDS / SEEP WETLANDS (0.1 ± AC)

LEGEND:

- APPROXIMATE PROPERTY LINE - PRIMARY
- APPROXIMATE PROPERTY LINE - ADJACENT
- BLUELINE STREAM
- LIMIT OF DISTURBED AREA
- LIMIT OF VINEYARD BLOCK

BIOLOGY RETENTION TABLE - LAND COVER				
BIOLOGICAL AREA	TOTAL (B) BIOLOGY AREA	TOTAL TO BE REMOVED IN PROJECT AREA	PROPOSED FOR RETENTION	PERCENT RETAINED
COAST LIVE OAK - WOODLAND	19.3 ± ACRES	0.2 ± ACRES	19.1 ± ACRES	99%
COAST LIVE OAK RIPARIAN WOODLAND	4.2 ± ACRES	0	4.2 ± ACRES	100%
CHAMISE	14.0 ± ACRES	0	14.0 ± ACRES	100%
LANDSCAPED / DEVELOPED AREA	0.8 ± ACRES	0	0.8 ± ACRES	100%
MEADOW	0.8 ± ACRES	0	0.8 ± ACRES	100%
NON-NATIVE GRASSLAND	2.4 ± ACRES	1.1 ± ACRES	1.3 ± ACRES	54%
VALLEY NEEDLEGRASS GRASSLAND	0.2 ± ACRES	0	0.2 ± ACRES	100%
WETLANDS / SEEP WETLANDS	0.1 ± ACRES	0	0.1 ± ACRES	100%
TOTAL	41.8 ± ACRES	1.3 ± ACRES	40.5 ± ACRES	

BIOLOGY RETENTION EXHIBIT - LAND COVER

SCALE: 1" = 100'

PREPARED UNDER THE
DIRECTION OF:



DRAWN BY:

BT DRAFTING

CHECKED BY:

MRM

DATE:

APRIL 2024

REVISIONS:

BY:

6/10/2025
PLAN REVIEW

BT

JOB NUMBER:
23-109

FILE:
23-109VEG.DWG

ORIGINAL SIZE:
24" X 36"

SHEET NUMBER: