Biological Resource Survey

Harcross Winery & Vineyards
6402 Dry Creek Road
APN 027-530-006

Prepared
For

Mike Muelrath, P.E.
Applied Civil Engineering Inc.

By

Kjeldsen Biological Consulting

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6402 Dry Creek Road
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PROJECT NAME:

Harcross Winery & Vineyards
1.0+/- Winery Site
3.0+/- Vineyard
6402 Dry Creek Road
Napa County, CA
APN 027-530-006

CIVIL ENGINEER:

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PERIOD OF STUDY:

2020 to 2023

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Executive Summary

This study was conducted at the request of Mike Muelrath, P.E. Applied Civil Engineering Inc., on behalf of the property owner, as background information for project permits from the Napa County Planning, Building and Environmental Services Department. The project proposes construction of a winery and 3+/- acre vineyard on a 51+/-acre parcel. The property is within the watershed of the Napa River and in the USGS Rutherford Quadrangle.

The purpose of this report is to identify biological resources that may be affected by the proposed project. The fieldwork studied the proposed project envelope and the surrounding environment. The findings presented below are the results of fieldwork conducted during the spring and summer of 2020-2023 by Kjeldsen Biological Consulting:

- The project proposes development of a winery (1.0+/- disturbance area), and 3+/-acre vineyard. Development is primary within a disturbed Annual Grassland landscape, and a small amount of Mixed Oak Woodlands;
- The project will not adversely impact any special-status plant or animal habitats, or their habitats designated by state or federal agencies;
- There are no Federal or State protected wetlands as defined by Section 404 of the Clean Water Act associated with the project site;
- Ephemeral drainages adjacent to the project site have been mapped and provided with setbacks as per Napa County;
- There are no Sensitive Natural Communities regulated by the California Department of Fish and Wildlife or US Fish and Wildlife within or associated with the project footprint;
- The project will not adversely impact any sensitive biotic communities or habitats of limited distribution on the county's Baseline Data Report;
- The proposed project will not substantially interfere with native wildlife species, wildlife corridors, and or native wildlife nursery sites;
- The footprint of the project will not significantly contribute to habitat loss or habitat fragmentation;
- Following recommendations in this report will reduce any potential biological impacts to a less than significant level pursuant to the California Environmental Quality Act (CEQA).
- A complete list of all plants and animals encountered on and near the project site is included in Appendix A.

Assessment of Impacts

The project has the potential to increase sediment into seasonal drainages within the watershed of the Napa River.

Recommendations

The following measures are presented to reduce potential biological impacts by the proposed project to a less than significant level pursuant to the California Environmental Quality Act.

All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. The erosion control plan for the project must be implemented.

The project must comply with Napa County General Plan Policy CON-24 Paragraph (c) stating that a project should "provide replacement of lost oak woodlands or preservation of like habitat at a 3:1 ratio."

Tree and vegetation removal must occur from September 1st to February 31st, outside of the general bird nesting season. If tree and vegetation removal during this time is not feasible, a pre-construction nesting bird survey must be performed by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance. The survey must cover the Project Area (including tree removal areas) and surrounding areas within 500 feet. If active bird nests are found during the survey, an appropriate no- disturbance buffer must be established by the qualified biologist. Once it is determined that the young have fledged (left the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

Grading shall occur during the dry season and must be suspended during unseasonable rainfalls of greater than one-half inch over a 24-hour period. If rainfall is in the forecast, standard erosion control measures (e.g., straw waddles, bales, silt fencing) must be deployed adjacent to ephemeral drainages. Construction personnel should be informed of the location of the site's aquatic resources with high-visibility flagging or staking prior to construction. No materials or equipment shall be stored near drainages on the property.

Deer fencing should be designed with exit gates and limited to the vineyard blocks. Fencing should use a design that has 6-inch square gaps at the base instead of the typical 3" by 6" rectangular openings to allow small mammals to move through the fence.

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A. PROJECT DESCRIPTION

This study was conducted at the request of Mike Muelrath, P.E. Applied Civil Engineering Inc., on behalf of the property owner, as background information for project permits from the Napa County Planning, Building and Environmental Services Department.

A.1 Introduction

The project proposes the construction of a winery and vineyards on a 51±-acre parcel. The area of disturbance is approximately 1.0+/- acres for the winery site, and 3+/- acres for the vineyard. The property is located in hills on the west side of the Napa Valley at 6402 Dry Creek Road. The study site is within the USGS Rutherford Quadrangle. Plate I provides a site and location map of the property. Plate III provides an aerial photograph of the property and study site.

A.2 Background

Habitat on the project site consists of Annual Grassland, and Mixed Oak Woodland. The site had been previously cleared and there is evidence of historic vineyards and terracing. The property burned in 2017, removing most of the woody vegetation that had begun to resprout within the grassland area. Many of the trees on the property were damaged in the 2017 fire. Some of the oak trees are recovering while others are declining. Dead trees have been removed. Clearing along Dry Creek Road has been conducted by the County and CalFire.

The site slopes to the east and there is currently a new residence and entrance road being constructed adjacent to the site. Ephemeral drainages were mapped and GPS locations were provided to Mike Mulrath. All ephemeral drainages have been avoided provided with a minimum 35-foot setback.

A.3 Purpose

The purpose of this report is to identify biological resources that may be affected by the proposed project as listed below:

- To determine the presence of special-status species and potential habitat for special-status species which would be impacted by the proposed project, including habitat types which may have the potential for supporting special-status species (target species that are known for the region, habitat, the Quadrangle and surrounding Quadrangles);

- To identify and assess potential impacts to Federal or State protected wetlands as defined by Section 404 of the Clean Water Act;
- To determine if the project will substantially interfere with native wildlife species, wildlife corridors, and or native wildlife nursery sites;
- Identify any State or Federal biological permits required by the proposed project; and
- Recommend measures to reduce biological impacts to a less than significant level pursuant to the California Environmental Quality Act (CEQA).

B. SURVEY METHODOLOGY

Seasonal field work was conducted on the site from 2020 to 2023, to provide an evaluation of flora and fauna with techniques that would yield an analysis for the presence of or potential for any special-status animals, plants, unique plant populations and or critical habitat associated with the proposed project.

B.1 Project Scoping

The scoping for the project considered seasonal fieldwork, location and type of habitat and or vegetation types present on the property or associated with potential special-status plant species known for the Quadrangle, surrounding Quadrangles, the County or the region. Our scoping also considered records in the most recent version of the Department of Fish and Wildlife California Natural Diversity Data Base (CDFW CNDDB RareFind5) and the California Native Plant Society (CNPS) Rare Plant Inventory. "Target" special-status species are those listed by the State, the Federal Government or the California Native Plant Society or considered threatened in the region. Our scoping is also a function of our familiarity with the local flora and fauna as well as previous projects on other properties in the area.

Tables IV and V present CDFW CNDDB Rare Find species and U.S. Fish and Wildlife Service listed species for the Quadrangle and surrounding Quadrangles.

B.2 Field Survey Methodology

Our studies were made by walking transects through and around the project site. Fieldwork focused on locating suitable habitat for organisms or indications that such habitat exists on the proposed project area. Photographs were taken during our studies to document conditions and selected photographs are included within this report. A floristic and seasonally appropriate survey was conducted in the field at the time of year when rare, threatened, or endangered species are both evident and identifiable for all the species expected to occur within the study areas.

Table I. Time and Date of Field Work

Date	Personnel	Person-hr.	Time	Conditions
March11, 2020	Chris K. and Daniel T. Kjeldsen	2.0 person - hours	9:00 to 10:00am	Cool
April 15, 2020	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	12:30 to 2:30 pm	Overcast, cool
May 15, 2020	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	10:00 to 12:00 pm	Overcast, no wind, mild temperatures
June 11, 2020	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	10:00 to 12:00 pm	Clear, light breeze, with warm
July 16, 2020	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	10:00 to 12:00 pm	Clear, warm temperatures

Date	Personnel	Person-hr.	Time	Conditions
April 11, 2021	Chris K. and Daniel T. Kjeldsen	2.0 person - hours	9:00 to 10:00	Cool
May 15, 2021	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	12:30 to 2:30 pm	Overcast, cool
June 13, 2021	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	10:00 to 12:00 pm	Overcast, no wind, mild temperatures
July 11, 2021	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	10:00 to 12:00 pm	Clear, light breeze, with warm
April 17, 2022	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	1:00 to 2:00 pm	Clear warm light breeze
May 19, 2022	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	9:00-10:00 pm	Clear, cool
June 18, 2022	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	1:00 to 2:00 pm	Overcast, cool
July 21, 2022	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	10:00-11:00 pm	Clear, Hot
May 31, 2023	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	1:00 to 2:00pm	Cool broken clouds
June 6, 2023	Daniel T. Kjeldsen	1.5 person-hours	12:00 to 1:30 pm	Sun, cool light breeze
August 17, 2023	Daniel T. Kjeldsen	2.0 person-hours	1:00 to 3:00 pm	Clear, Hot no wind

Plants Field surveys were conducted identifying and recording all species on the site and in the near proximity. Transects through the proposed project sites were made methodically by foot. Transects were established to cover topographic and vegetation variations within the study area. The Intuitive Controlled approach calls for the qualified surveyor to conduct a survey of the area by walking through it and around its perimeters, and closely examining portions where target species are especially likely to occur. The open nature of the site, historic use, and ongoing management practices facilitated our field studies. All plant life was recorded in field notes and is presented in Appendix A.

The fieldwork for identifying special-status plant species is based on our knowledge and many years of experience in conducting special-status plant species surveys in the region. Plants were identified in the field or reference material was collected, when necessary, for verification using laboratory examination with a binocular microscope and reference materials. Herbarium specimens from plants collected on the project site were made when relevant. Voucher material for selected individuals is in the possession of the authors. All plants observed (living and/or remains from last season's growth) were recorded in field notes.

Typically, blooming examples are required for identification however it is not the only method for identifying the presence of or excluding the possibility of rare plants. Vegetative morphology and dried flower or fruit morphology, which may persist long after the blooming period, may also be used. Skeletal remains from previous season’s growth can also be used for identification. Some

species do not flower each year or only flower at maturity and therefore must be identified from vegetative characteristics. Algae, fungi, mosses, lichens, ferns, Lycophyta and Sphenophyta have no flowers and there are representatives from these groups that are now considered to be special-status species, which require non-blooming identification. For some plants, unique features such as the aromatic oils present are key indicator. For some trees and shrubs with unique vegetative characteristics flowering is not needed for proper identification. The vegetative evaluation as a function of field experience can be used to identify species outside of the blooming period to verify or exclude the possibility of special-status plants in a study area.

Habitat is also a key characteristic for consideration of special-status species in a study area. Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations, special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years. A site evaluation based on habitat or environmental conditions is therefore a reliable method for including or excluding the possibility of special-status species in an area.

Animals were identified in the field by their sight, sign, or call. Our field techniques consisted of surveying the area with binoculars and walking the perimeter of the project site. Existing site conditions were used to identify habitat, which could potentially support special-status animal species. All animal life was recorded in field notes and is presented in Appendix A.

Trees adjoining the project footprint were surveyed to determine whether occupied raptor nests were present within the proximity of the project site (i.e., within a minimum 500 feet of the areas to be disturbed). Surveys consisted of scanning the trees on the property (500 ft +) with binoculars searching for nests or bird activity. Our search was conducted from the property and by walking under existing trees looking for droppings or nest scatter from nests that may be present that were not observable by binoculars.

Pamela Town, Consulting Wildlife Biologist, Forest Ecosystem Management, conducted a Northern Spotted Owl (*Strix occidentalis caurina*) survey April 17, 2022 on the project site. See attached report Appendix C. Results are summarized in our table IV.

Corridors Aerial photos were reviewed to evaluate the habitat surrounding the site and the potential for wildlife movement, or wildlife corridors from adjoining properties onto or through the property. Our field methodology for identifying corridors for movement searched for game trails or habitat that would favor movement of wildlife or potential gene flow. We also looked for barriers that would prevent movement or direct movement to particular areas. No game cameras, track plates, or other field equipment were used.

These five functions were used to evaluate potential wildlife corridors on the property. Corridors are considered suitable for flora and fauna movements if they provide avenues along which:

1. Wide-ranging animals can travel, migrate and meet mates;
2. Plants can propagate;
3. Genetic interchange can occur;

4. Populations can move in response to environmental changes and natural disasters; and
5. Individuals can re-colonize habitats from which populations have been locally extirpated.

Wetlands The project site was reviewed to determine from existing environmental conditions with a combination of vegetation, soils, and hydrologic information if seasonal wetlands were present. Wetlands were evaluated using the ACOE's three-parameter approach: Vegetation, Hydrology, and Soils.

Tributaries to Waters of the U.S. & Waters of the State are determined by the evaluation of continuity and "ordinary high-water mark." The ordinary high water mark is determined based on the top of scour marks and high flow impacts on vegetation. Waters of the U.S. (WOTUS) are defined as wetlands, ponds, lakes, creeks, streams, rivers, ephemeral drainages, ditches and seasonally ponded areas (EPA and ACOE Rule August 28, 2015). Seasonal stream channels with a definable bed and bank fall within the jurisdiction of EPA, ACOE and CDFW. Tributaries to Waters of the U.S. as well as "Waters of the State" are determined by the presence of a definable bed and bank, evidence of or ability to transport sediment and/or a blue line on the USGS Quadrangle Map.

The Migratory Bird Treaty Act of 1918 makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The MBTA also prohibits disturbance or harassment of nesting migratory birds at any time during their breeding season.

Special-status Species or Listed Species are plants or animals that have been designated by Federal or State agencies as rare, threatened or endangered, and California Native Plant Society.

Plant Communities or Alliances The classification of plant communities in this report is based on A Manual of California Vegetation Second Edition. Plant Communities are vegetation types that are recognizable by the dominant species present with identifiable boundaries. They are a result of site specific edaphic conditions, hydrology, topography, aspect, natural disturbance and elevation. Plant assemblages provide food, cover and habitat for wildlife often with specific species present.

Sensitive Communities CDFW CNDDB identifies environmentally sensitive plant communities that are rare or threatened in nature. Sensitive habitat is defined as any area that meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Wildlife Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.

Critical Habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and

protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Streams /Drainages

There are two types of streams or drainages; 1) perennial flowing waters and 2) seasonal ephemeral drainages that convey water during and shortly after rainfall. The USGS 7.5 Minute Quadrangle map for the site was analyzed for the presence of "blue line" creeks. Onsite topography and evidence of bed and bank was used for evaluating ephemeral drainages. Drainages were walked and visually evaluated for continuity of bed and bank as well as signs of aquatic life. The streambed was evaluated for flow, pools, substrate, bank and quality of habitat was recorded in field notes. Vegetation in the streambed was recorded if present and quality and quantity of riparian conditions as distinct from surrounding vegetation noted.

Stream Classification

Class I - Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.

Class II - Fish always or seasonally present, aquatic habitat for non-fish aquatic species.

Class III - No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high-water flow conditions.

Class IV - Man-made watercourses, usually downstream, established domestic, agricultural, hydroelectric supply or other beneficial use.

"Ephemeral" or "intermittent stream" means any natural channel with defined bed and banks containing flowing water or showing evidence of having contained flowing water, such as deposit of rock, sand, gravel, or soil, that does not meet the definition of "stream" in Napa County.

Ephemeral or intermittent streams that do not meet the criteria for a stream as defined in Section 18.108.030 shall have a minimum 35-foot setback (per Napa County).

C. RESULTS / FINDINGS

C.1 Biological Setting

The study site is located in Napa County in Dry Creek Valley west of Rutherford. Habitat on the project site consists of Annual Grassland, and Mixed Oak Woodland. The grassland area proposed for winery and vineyards was previously altered and planted to vineyards. Vineyards were removed 30+ years ago. There is evidence of old grape vines and terracing. There is currently a residence being built adjacent to the project site.

Access to the project site is from the existing driveway along Dry Creek Road. The project site slopes to the east. The parcel drains by direct infiltration or sheet flow into unnamed drainages, thence Dry Creek.

The property burned in 2017, removing most of the woody vegetation that had begun to resprout within the grassland area. The property owner has cleared dead and dying vegetation on the site, and has mowed and disked portions of the proposed vineyard area.

Many of the trees on the property were damaged in the fire. Some of the oak trees are recovering while others are declining. Dead trees have been removed. Clearing along Dry Creek Road has been conducted by the County and CalFire.

The property is within the inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province. The property and surrounding region are strongly influenced storms and fog from the Pacific Ocean. The region is in climate Zone 14 "Ocean influenced Northern and Central California" characterized as an inland area with ocean or cold air influence. The climate of the region is characterized by hot, dry summers and cool, wet winters, with precipitation that varies regionally from less than 30 to more than 60 inches per year. This climate regime is referred to as a "Mediterranean Climate." The average annual temperature ranges from 45 to 90 degrees Fahrenheit. The variations of abiotic conditions including geology results in a high level of biological diversity per unit area in the region.

C.2 Habitat Types Present

The vegetation of California has been considered to be a mosaic with major changes present from one area to another often with distinct vegetation changes within short distances. It is generally convenient to refer to the vegetation associates on a site as a plant community or alliance. Typically plant communities or vegetation alliances are identified or characterized by the dominant vegetation form or plant species present. There have been numerous community classification schemes proposed by different authors using different systems for the classification of vegetation. A basic premise for the designation of plant communities, associations or alliances is that in nature there are distinct plant populations occupying a site that are stable at any one time (climax community is a biotic association, that in the absence of disturbance maintains a stable assemblage over long periods of time).

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region. The following Napa County vegetation types are found on the project site: Ruderal Grassland (Annual Grasslands) and Mixed Oak Woodlands.

The CNPS Rare Plant Inventory associates rare and endangered species with "Habitat Types." The Habitat Type for the project sites would be classified by CNPS as Valley and Foothill Grassland, and Cismontane Woodland.

In the sections below the habitat types present within the footprint of the proposed project is described and further categorized with the system of vegetation classification by Sawyer *et al* A Manual of California Vegetation Second Edition. Sawyer classifies the vegetation on the project site as Grassland Semi-natural Stands with Herbaceous Layer and Woodland Alliance of Mixed Oak Woodland. This classification is the presently preferred system that over time will replace existing classification systems.

Grassland Semi-Natural Herbaceous Stands with Herbaceous Layer (Annual Grasslands)

Semi-Natural Herbaceous Grasslands are a result of decades of agriculture and the introduction of non-native grasses and herbs. Sawyer uses the term "Semi-natural Stands to refer to non-native introduced plants that have become established and coexist with native species. This includes what can be termed weeds, aliens, exotics or invasive plants in agricultural and nonagricultural settings.

Avena ssp. Semi-natural Herbaceous Stand, Wild Oats Grasslands. The membership rules require *Avena ssp.* to be > 50% relative cover of the herbaceous layer. Semi-natural stands are those dominated by non-native species that have become naturalized primarily as a result of historic agricultural practices and fire suppression.

Wildlife Associated with Semi-natural Grasslands

Semi-natural Grasslands with Herbaceous Layer within the study area provide habitat for a variety of birds and small mammals. The vegetation present provides browse for deer, cover and foraging habitat for mice and voles, habitat for Pocket Gopher, foraging habitat for Broad-footed Moles, shrews, and cover and foraging habitat for Black-tailed Jackrabbit. Numerous bird species forage for insects and seeds in these grasslands. Bats will forage for insects over this area and raptors will feed on reptiles and mammals in this type of vegetation cover. In general, however, the non-native annual grasslands, such as are present on the study site, are not an optimum habitat for wildlife.

Forest or Woodland Alliances

Woodland Alliances are characterized by a dominant tree overstory and different degrees of understory development. Fire management, canopy age and degree of closure, windfalls, historic use, grazing, substrate base, aspect and rainfall are variables that control the degree of understory shrubs, herbs and tree recruitment.

Mixed Oak Woodland is dominated by Live Oaks, Black Oaks and Blue Oaks in varying densities.

Understory vegetation is limited due to historic use, shade and leaf litter. Scattered herbaceous vegetation includes native grasses such as California fescue (*Festuca californica*) and blue wildrye (*Elymus glaucus*) and many of the non-native grasses discussed above. Native forbs (herbaceous flowering plants that are not graminoids) in the understory include milk maids (*Cardamine californica*), Warrior Plume (*Pedicularis densiflor*a), purple snakeroot (*Sanicula bipnnatifida*) and blue dicks (*Dichellostema capitata*).

***Quercus* (*agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni*) Forest Alliance Mixed Oak Forest**; *Quercus agrifolia, Q. douglasii, Q, garryana, Q. kelloggii, Q. lobata* and/or *Q. wislizeni* are co-dominant in the tree canopy with *Aesculus californica, Arbutus menziesii, Pinus sabiniana, Pseudotsuga menziesii,* and *Umbellularia californica*. Trees > 30 m. The canopy is intermittent to continuous. Shrubs are infrequent or common, herbaceous layer is sparse or abundant, may be grassy. This Alliance is found in valleys and on gentle to steep slopes. The membership rules require three or more *Quercus* species present at >30% constancy and they are co-dominant in the tree canopy.

Wildlife: Mixed Oak Woodlands are productive for wildlife and support a variety species. The understory associates vary with aspect, fire history and grazing pressure. The annual acorn crop provides an important food source for many species of birds and mammals particularly deer and the introduced wild turkey. Numerous insects feed on oaks. The wildlife associated with Oak Woodlands includes the following: deer, squirrels, mountain lion, coyote, striped skunk, bobcat, fox and numerous rodents. Numerous fungi including many mycorrhizal fungi are associated with this species. Many mosses, liverworts and lichens are associated with these trees. Reptiles in this habitat include: western fence lizard, alligator lizard, king snake, common gopher snake, and western rattlesnake. Amphibians include: salamanders, frogs, newts, and toads. Many of California's birds are associated with this habitat.

The property contains Doug-Fir Woodlands and Bay Woodlands that are not associated with the project.

Table II Approximate Acreage of Plant Communities or Alliances on the Property and Approximate Acreage to be removed by the Project (Vineyard & Winery).

Plant Community	Estimated Acreage on Property 51+/-Acres	Estimated Acreage to be Disturbed 4 +/-Acres
Annual Grasslands	5.4	3.5
Mixed Oak Woodlands	25	0.5
Bay Woodlands	0.2	0.0
Doug-Fir Woodlands	16.2	0.0
Developed	4.2	NA
	Total 51-Acres	

Table III. Respective Characteristics of Plant Communities with the project area.

Plant Community	Respective Characteristics Approximate tree density (Average trees and species per acre)
Annual Grasslands	Semi-Natural Herbaceous Grasslands are a result of decades of grazing and the introduction of non-native grasses and herbs. Oaks surround the grasslands on the property. Grasslands have been disturbed and consists mainly of non native grasses and wildflowers.
Mixed Oak Woodlands	The Woodland Alliance appears to be of a relatively mature age class of Live Oaks, Blue Oaks, and Black Oaks with an occasional Valley Oak. Trees were in the range of 10 to 18 in DBH range and spaced 10 to 20 feet apart. Understory consists of poison oak and California bay trees.

Figure 1. Location of Winery Site.

Figure 2. Oak woodlands at the edge of Winery site proposed for removal.

Figure 3. Grassland proposed for vineyards.

Figure 4. Grassland proposed for vineyard. Photo 2022.

Figure 5. Grassland proposed for vineyard. Photo 2021.

The aerial photograph, Plate III illustrates the site and the surrounding environment. The environmental setting of the project site consists of:

- North – Oak Woodlands, Grasslands;
- East – Chaparral, Oak Woodlands;
- South – Oak Woodlands, Rural Residential;
- West – Oak Woodlands, Doug-Fir Woodlands

C.3 Special-Status Species

Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, threatened or endangered. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare, Threatened, or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxon meets the State's definitions and criteria, then the taxa should be treated as such.

A map from the CDFW CNDDB Rare Find displays known special-status species in the proximity of the project as shown on (Plate II). These taxa as well as those listed in Appendix C Special-status Species known for the Quadrangle and Surrounding Quadrangles were considered and reviewed as part of our scoping for the project site and property. Reference sites were reviewed as part of our scoping for some of the species.

Special-status Plants

Table IV below provides a list of plant species that are known to occur within the region of the proposed project (CDFW CNDDB Rare Find, CNPS search and U.S. Fish and Wildlife Service). The table includes an analysis of habitat for presence or absence. The status of each species is shown in Appendix B.

Table IV. Analysis of CDFW CNDDB, CNPS and USFWS special-status plant species known to be present in the region. Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	**Species Habitat Association or Plant Community**	**Habitat Present on Project Site**	**Bloom Time**	**Obs. on or Near Site**	**Analysis of habitat on project site for presence or absence.**
Allium peninsulare var. *franciscanum* Franciscan Onion	Cismontane Woodland, Valley Foothill Grassland	No	May-June	No	Absence of requisite habitat and historic use of the project site.
Amsinckia lunularis Bent-flowered Fiddleneck	Cismontane, Valley&Foothill Grassland	No	March-June	No	Historic land use and maintenance precludes presence on the project site.

Scientific Name Common Name	**Species Habitat Association or Plant Community**	**Habitat Present on Project Site**	**Bloom Time**	**Obs. on or Near Site**	**Analysis of habitat on project site for presence or absence.**
Amorpha californica var. *napensis* Napa False Indigo	Cismontane Woodland	Yes	April-July	No	Species was not observed during our survey.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon Ridge Manzanita	Chaparral, Lower Montane Coniferous Forest (openings), Rocky, often Serpentinite	No	Feb.-April	No	Absence of requisite habitat and vegetation associates on the site or in the immediate vicinity.
Astragalus claranus Clara Hunt's Milk-vetch	Chaparral, Cismontane Woodland, Grassland	No	March-May	No	Historic land use and maintenance precludes presence on the project site.
Astragalus tener var. tener Alkali Milk-vetch	Valley and Foothill Grassland, Vernal Pools /Alkaline	No	March-June	No	Absence of requisite mesic habitat or substrate on project site precludes presence.
Blennosperma bakeri Sonoma Sunshine	Valley and Foothill Grassland, Vernal Pools	No	March-May	No	Absence of requisite mesic habitat.
Brodiaea leptandra Narrow-anthered California Brodiaea	Cismontane Woodland	No	May-June	No	Requisite habitat, exposure and historic land use preclude presence on project site.
Ceanothus confusus Rincon Ridge Ceanothus	Closed Cone Conifer Forests, Chaparral	No	Feb.-April	No	Absence of typical habitat and vegetation associates.
Ceanothus divergens Calistoga Ceanothus	Chaparral, Serpentinite or Volcanic-Rocky	No	May-Sep.	No	Absence of typical habitat and vegetation associates.
Ceanothus sonomensis Sonoma Ceanothus	Chaparral, Serpentinite or Rocky Volcanic	No	Feb.-March	No	Absence of typical habitat and vegetation associates.
Centromadia parryi ssp. *parryi* Pappose Tarplant	Grassland salt or alkaline Marshes	No	March-June	No	Requisite mesic conditions absent.
Clarkia breweri Brewer's Clarkia	Openings in Chaparral or Woodlands	No	April-June	No	Requisite habitat, exposure and historic land use preclude presence on project site.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat Present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence.
Downingia pusilla Dwarf Downingia	Wetlands	No	March-May	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Eryngium jepsonii Jepson's Coyote Thistle	Moist Clay Soils	No	April-Aug.	No	Absence of mesic conditions required for presence.
Extriplex joaquiniana (=Atriplex) San Joaquin Spearscale	Valley and Foothill Grassland, Alkali	No	April-Oct.	No	Absence of requisite edaphic habitat on the site precludes presence.
Fritillaria liliacea Fragrant Fritillary	Heavy soil, open grasslands, fields near coast	No	Feb.-April	No	Absence of edaphic conditions required for presence.
Hemizonia congesta ssp. *congesta* Congested Headed Tarplant	Coastal Grassland	No	April Oct.	No	Absence of requisite habitat.
Horkelia tenuiloba Thin-lobed Horkelia	Valley and Foothill Grassland, mesic (wet) openings, sandy soils	No	May-July	No	Requisite habitat, exposure and historic land use preclude presence on project site.
Lasthenia conjugens Contra Costa Goldfields	Vernal Pools	No	March–June	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Layia septentrionalis Colusa Layia	Cismontane Woodland, Grassland, Serpentinite	No	April-May	No	Requisite edaphic habitat absent on the site or in the immediate vicinity.
Legenere limosa Legenere	Vernal Pools	No	April-June	No	Requisite mesic habitat absent on the site. No vernal pools.
Leptosiphon aureus Bristly Leptosiphon	Grassy Areas, Woodlands, Chaparral	No	April-July	No	Requisite habitat absent.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat Present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence.
Leptosiphon jepsonii Jepson's Leptosiphon	Chaparral, Cismontane Woodland, Grassland	No	April-May	No	Species was not observed. Historic land use precludes presence.
Limnanthes vinculans Sebastopol Meadowfoam	Meadows and Seeps, Grassland, Vernal Pools	No	April-May	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Lomatium repostum Napa Lomatium	Chaparral	No	March-June	No	Lack of suitable habitat.
Lupinus sericatus Cobb Mountain Lupine	Broadleaved Upland Forest, Chaparral, Cismontane Woodland	No	March-June	No	Absence of requisite vegetation associates as well as historical use of project site precludes presence.
Navarretia leucocephala ssp. *bakeri* Baker's Navarretia	Meadows and Seeps Cismontane Woodland, Vernal Pools	No	May-July	No	Absence of typical habitat and vegetation associates.
Plagiobothrys strictus Calistoga Popcorn-flower	Vernal Pools near thermal springs	No	March-June	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Poa napensis Napa Blue Grass	Meadows near Hot Springs	No	May-Aug.	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Puccinella simplex California Alkali Grass	Saline Flats, Mineral Springs	No	March-May	No	Lack of habitat.
Ranunculus lobbii Lobb's Aquatic Buttercup	Valley and Foothill Grassland, Vernal Pools	No	Feb-May	No	Requisite habitat, exposure and historic land use preclude presence on project site.
Trichostema ruygtii Napa Bluecurls	Grassland	No	June-Aug.	No	Historic land use and maintenance precludes presence on the project site.
Trifolium amoenum, Two-fork Clover	Coastal Bluff Scrub, Grassland, Serpentinite	No	April-June	No	Historical use of the site precludes presence. This species is vulnerable to disturbance.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat Present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence.
Trifolium hydrophilum Saline Clover	Marshes, Swamps and Grassland	No	April-June	No	Absence of mesic habitat required for presence.

Our floristic seasonal studies covered the project site and surrounding habitat. The absence of serpentinite, wetlands including vernal pools and historic use of the property all contribute to the absence of special-status species of plants within or associated with the proposed project. One special-status plant species is recorded by the CDFW CNDDB near the property (Napa False Indigo), as shown on Plate II.

We found no evidence for the presence of this species during our surveys on the project site and property. Napa False Indigo is recorded for the road cuts upslope from the property. Reference plants were observed and growing along the road in this known location.

Special-status Animals

Table V below provides a list of animal species that are known to occur within the region of the proposed project (CDFW CNDDB and U.S. Fish and Wildlife Service). The table includes an analysis / justification for presence / absence. The status of each species is shown in Appendix B.

Table V. Analysis of CDFW CNDDB and USFWS target special-status animal species from the region. Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	Habitat	Potential for Property	Obs. on Project Site	Analysis of habitat on project site for presence or absence.
Ambystoma californiense California Tiger Salamander	Ephemeral breeding pools with upland oak woodlands for estivation	No	No	Outside of known range.
Ammodramus savannarum Grasshopper Sparrow	Grasslands and Prairies	No	No	Habitat on project site is not considered suitable. They prefer open pastures with little to no scrub cover and often with some bare ground.
Antrozous pallidus Pallid Bat	Roosts in Buildings and Overhangs, Woodlands	No	No	No potential roosting habitat on project site.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat Present on Project Site	Bloom Time	Obs. on or Near Site
Athene cunicularia Burrowing Owl	Low lying grasslands	No	No	No signs of burrows observed. Not known in the area.
Buteo regalis Ferruginous Hawk	Hunts from perches in arid grasslands, migrates through area	No	No	No nests were observed. Surrounding habitat is atypical for this species.
Buteo swainsoni Swainson's Hawk	Open areas with riparian influence	No	No	Lack of nesting habitat.
Cypseloides niger Black Swift	Nest in crevices on cliffs near waterfalls	No	No	Lack of habitat on property and project site.
Danaus plexippus Monarch Butterfly	Milkweed, migrates along Coast	No	No	May pass through. Lack of food sources on project site.
Corynorhinus townsendii Townsend's Big-eared Bat	Caves, also in buildings. Trees min 24"DBH with basal hollow of 2 sq ft.	May fly over	No	No roosting habitat on site.
Elanus leucurus White-tailed Kite	Nests in tall trees near water.	May fly over	No	Species was not observed during our survey.
Rana aurora Northern Red-legged Frog	Ponds ,streams, marshes, shorelines with vegetation.	No	No	Lack of aquatic habitat on the project site.
Rana boylii Foothill Yellow-legged Frog	Streams with pools	No	No	Lack of aquatic habitat on property presence.
Strix occidentalis caurina Northern Spotted Owl	Old growth, Forested deep canyons	No	No	Separate Spotted Owl. No impact to species was identified.

The CNDDB (Plate II) does not show any records for special-status animal species on or near the project site. We found no evidence for the presence of any of the species listed in the table above during our surveys.

C.4 Discussion of Sensitive Habitat Types

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region.

The Napa County Baseline Data Report as well as the California Department of Fish and Wildlife Natural Diversity Data Base (CDFW CNDDB) lists recognized Sensitive Biotic Communities. The Napa County Baseline Data Report lists twenty-three communities that are considered sensitive by CDFW due to their rarity, high biological diversity, and/or susceptibility to disturbance or destruction.

> Serpentine bunchgrass grassland, Wildflower field (located within native grassland), Creeping ryegrass grassland, Purple needlegrass grassland, One-sided bluegrass grassland, Mixed serpentine chaparral, McNab cypress woodland, Oregon white oak woodland, California bay forests and woodlands, Fremont cottonwood riparian forests, Arroyo willow riparian forests, Black willow riparian forests, Pacific willow riparian forests,, Red willow riparian forests, Narrowleaf willow riparian forests, Mixed willow riparian forests, Sargent cypress woodland, Douglas-fir–ponderosa pine forest (old-growth), Redwood forest, Coastal and valley freshwater marsh, Coastal brackish marsh, Northern coastal salt marsh, and Northern vernal pool.

Napa County biotic communities of limited distribution that are sensitive include: Native grassland, Tanbark oak alliance, Brewer willow alliance, Ponderosa pine alliance, Riverine, lacustrine, and tidal mudflats, and Wet meadow grasses super alliance.

The grasslands within the footprint of the project do not consist of any of the sensitive grassland communities listed by the Napa County Baseline Data Report or CDFW.

Mixed oak woodland found on the project is not considered a California Department of Fish and Wildlife Sensitive habitat. California Natural Community List 71.100.14 Quercus douglasii – Quercus lobata – Quercus agrifolia / Toxicodendron diversilobum. Sensitive Alliance N.

Stream Analysis

Napa County Definition for a Defined Drainage is a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey maps most recently published, or any replacement to that symbol, and or any watercourse that has a well-defined channel with a depth greater that four feet and banks steeper than 3:1 and contains hydrophilic vegetation, riparian vegetation or woody-vegetation including tree species greater that ten feet in height.

Napa County mapping shows two ephemeral drainage inside of the project area. The areas identified by Napa County mapping do not contain any evidence of a definable bed and or bank or sediment transport in this area.

All areas that meet the definition of Ephemeral Drainage on the property have been avoided and provided with a minimum 35-foot setback, and the Napa County Definition of a Stream has been provided with a 85-foot setback, as per Napa County policy.

D. POTENTIAL BIOLOGICAL IMPACTS

The project's effect to onsite or regional biological resources is considered to be significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. serpentine habitat, wetlands, riparian habitat);
- Adverse impacts to special-status plant and animal species;
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. sensitive biotic communities, special status habitats; e.g. wetlands);
- Loss of critical breeding, feeding or roosting habitat; and
- Interference with migratory routes or habitat connectivity.

Construction and development create elevated noise and permanent change in the landscape. A small amount of Oak Woodlands will be impacted by the project site. In the sections below a discussion of potential impacts of the project on the biological resources is presented.

D.1 Analysis of Potential Impacts to Special-status Species

Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations, special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years.

Plants
Our fieldwork did not find and special-status plant or habitat for special-status plant species known for the Quadrangle, surrounding Quadrangles or for the region that would be impacted by the proposed project. The present habitat conditions of the project site and historic use are such that there is little reason to expect the occurrence of any special-status plant species within the footprint of the project.

Animals
Our fieldwork did not find special-status animal or habitat for special-status animal species known for the Quadrangle, surrounding Quadrangles or for the region that would be impacted by the proposed project. The present habitat conditions of the project sites and historic use are such that there is little reason to expect the occurrence of any special-status animal species within the footprint of the project.

The California Department of Fish and Wildlife CNDDB records the Rutherford Quadrangle as a Sensitive Element Occurrence (EO) for the Foothill Yellow-legged Frog (*Rana boylii*). The Foothill Yellow-legged Frog is a California Species of Special Concern (SSC).

Foothill Yellow-Legged Frog - The foothill yellow-legged frog is a state candidate (threatened) species. The foothill yellow-legged frog is found in partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. Individuals seek cover under rocks in streams or on shore within a few feet of water. This species is rarely encountered far from permanent water. The foothill yellow-legged frog requires cobble-sized substrate for egg-laying and needs at least 15 weeks to attain metamorphosis. Habitat for this species is not present on the property of project site.

The disturbed open annual grassland and mixed oak woodlands on the project site are such that there is no reason to expect any impacts to special-status species off-site provided standard best management practices are utilized and the erosion control plan is implemented.

Habitat impacted by the proposed project is such that it will not substantially reduce or restrict the range of listed animals.

D.2 Analysis of Potential Impacts on Sensitive Habitat

Native Grassland
Native grasslands are dominated by a mixture of annual and perennial grasses, such as small fescue (*Festuca (Vulpia) microstachys*), purple needlegrass (*Stipa* (*Nasella) pulchra*), and nodding needlegrass (*Stipa (Nasella)cernua*). Native grasslands likely occurred in the County in most areas currently occupied by annual grassland. The project site has been disturbed in the past and contains mostly non-native grass species. Patches of purple needlegrass are present on the project site but do not meet the definition of Native Grass Grassland. The project will not impact Native Grass Grasslands.

Seasonal Wetland generally denotes areas where the soil is seasonally saturated and/or inundated by fresh water for a significant portion of the wet season, and then seasonally dry during the dry season. To be classified as "Wetland," the duration of saturation and/or inundation must be long enough to cause the soils and vegetation to become altered and adapted to the wetland conditions. Varying degrees of pooling or ponding, and saturation will produce different edaphic and vegetative responses. These soil and vegetative clues, as well as hydrological features, are used to define the wetland type. Seasonal wetlands typically take the form of shallow depressions and swales that may be intermixed with a variety of upland habitat types. Seasonal wetlands fall under the jurisdiction of the U.S. Army Corps of Engineers. There was no evidence of standing water, surface water or saturated soil conditions that would produce anaerobic soil conditions. No soil pits were dug as no areas were identified as seasonal wetlands. There are no seasonal wetlands associated with the proposed project footprint.

Tributaries to Waters of the U.S & Waters of the State include drainages which are characterized by the presence of definable bed and bank that meet ACOE, and RWQCB definitions and or jurisdiction. The ephemeral drainages on the property are Waters of the State. Ephemeral drainages adjacent to the property were mapped and have been provided with a 35-foot setback.

Riparian Vegetation is by all standards considered sensitive. Riparian Vegetation functions to control water temperature, regulate nutrient supply (biofilters), bank stabilization, rate of runoff, wildlife habitat (shelter and food), release of allochthonous material, release of woody debris which functions as habitat and slow nutrient release, and protection for aquatic organisms. Riparian vegetation is also a moderator of water temperature has a cascade effect in that it relates to oxygen availability. The project will not impact or remove any riparian vegetation.

Trees Napa County requires the replacement of lost oak woodlands or preservation of like habitat on site. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible. Within the Agricultural Watershed zoning district, require replacement of lost oak woodlands or permanent preservation of like habitat at a minimum 3:1 ratio when retention of existing vegetation is found to be infeasible.

The project proposes to remove approximately 0.47-acres of Oak Woodland Canopy. Based on 2018 aerial photo Plate V.

Wildlife Habitat and Wildlife Corridors are natural areas interspersed with developed areas are important for animal movement, increasing genetic variation in plant and animal populations, reduction of population fluctuations, and retention of predators of agricultural pests and for movement of wildlife and plant populations. Wildlife corridors have been demonstrated to not only increase the range of vertebrates including avifauna between patches of habitat but also facilitate two key plant-animal interactions: pollination and seed dispersal. Corridor users can be grouped into two types: passage species and corridor dwellers. The data from various studies indicate that corridors should be at least 100 feet wide to provide adequate movement for passage species and corridor dwellers in the landscape. Habitat on the project site does provide some degree for movement at a local scale, although the project site itself does not provide corridor functions beyond connecting similar forested and wooded parcels in surrounding areas. There are no identifiable wildlife corridors associated with the project site.

Raptor Nests, Bird Rookeries, Bat Roosts, Wildlife Dens or Burrows
No bird rookeries or raptor nests were observed during our surveys on the property. Trees adjacent to the project do not contain suitable bat habitat.

Very few burrows were observed, but small mammals and songbirds likely utilize habitats on the project site for foraging and cover. No significant wildlife dens or burrows were observed. The project will not result in a significant negative impact to wildlife.

Unique Species that are Endemic, Rare or Atypical for the Area
The flora and fauna present are typical for the region. There were no unique species, endemic populations of plants or animals or species that are rare or atypical for the area present on the project site or property.

Habitat Fragmentation
Habitat fragmentation can result in a net-loss in overall habitat, an increase in edge habitat, and isolation effects, including genetic isolation. Due to these and other factors, small and isolated patches of habitat generally support lower species diversity than do large undeveloped areas. As

a consequence of habitat fragmentation, abundance and diversity of species originally present often decline, and losses are most noticeable in small fragments. Loss of habitat, including habitat fragmentation, is the single most important factor affecting the long-term survival of rare, threatened and endangered species.

Habitat fragmentation is a local and global concern. The project will incrementally reduce a small amount of annual grassland habitat on the property. The proposed project will not lead to significant impacts to habitat fragmentation in the region, significant species exclusion, or significant change in species composition in the region. The project site is relatively small within the context of the surrounding environment. Development will not result in significant habitat fragmentation in the area.

D.3 Potential Off-site Impacts of the Project

The project has the potential to impact aquatic species downstream by sediment loss. There are no expected significant impacts to off-site or local biological resources by the proposed project provided Recommendations in this report, Erosion Control Plan, and Best Management Practices are implemented during the development of the site.

D.4 Potential Cumulative Impacts

Cumulative biological effects are the result of incremental losses of biological resources within a region. Removal of vegetation can reduce the abundance and diversity of species in an area. Annual grasslands provide limited foraging, cover, and breeding habitat for native wildlife species.

Factors that were considered in the evaluation of cumulative biological impacts include:

1. Any known rare, threatened, or endangered species or sensitive species that may be directly or indirectly affected by project activities.

Significant cumulative effects on listed species may be expected as a result of activities over time that combine to have a substantial effect on the species or on the habitat of the species.

2. Any significant, known wildlife or fisheries resource concerns within the immediate project area and the biological assessment area (e.g. loss of oaks creating forage problems for a local deer herd, species requiring special elements, sensitive species, and significant natural areas).

Significant cumulative effects may be expected where there is a substantial reduction in required habitat or the project will result in substantial interference with the movement of resident or migratory species. The significance of cumulative impacts on non-listed species viability was determined relative to the benefits to other non-listed species.

3. The aquatic and near-water habitat conditions on the site and immediate surrounding area. Habitat conditions of major concern are: pools and riffles, large woody material in the stream, and near-water vegetation.

Development will create elevated noise and a permeant loss of a small amount of annual grassland and Oak Woodland habitat. Development of 4+/- acres (+/-3-acre Vineyard and +/-1-acre Winery Site) will not significantly change use by wildlife on the property, and will not result in significant cumulative impacts.

No cumulative impacts to wildlife populations are expected by the proposed project. The project will reduce the area available to small mammals and foraging habitat for birds in the area. The loss of habitat is considered to be less than significant.

There are no significant impacts to migratory corridors or wildlife nursery site associated with the proposed project. The potential biological impacts of the project include the incremental loss of semi-natural grasslands and native oaks. The impact to local wildlife will be undetectable on a regional scale.

D.5 State and Federal Permit

Any impacts to ephemeral drainages (bed or banks) property will require agency consultation and permits from the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and Regional Water Quality Control Board.

E. RECOMMENDATIONS TO AVOID IMPACTS

E.1 Significance

The significance of potential impacts is a function of the scope and scale of the proposed project within the existing Federal, State and Local regulations and management practices. The determination of significance of impacts to biological resources consists of an understanding of the project as proposed and an evaluation of the context in which the impact may occur. The extent and degree of any impact on-site or off-site must be evaluated consistent with known or expected site conditions. Therefore, the significance of potential impacts is assessed relevant to a site-specific scale and the larger regional context.

E.2 Recommendations

The project must comply with Napa County SWPPP requirements to ensure that best management practices are adopted in order to minimize the amount of sediment and other pollutants leaving the site during construction activities.

Site development has the potential to impact biological resources without appropriate avoidance and protection measures.

Recommendation 1. All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. The erosion control plan for the project must be implemented.

Recommendation 2. The project must comply with Napa County General Plan Policy CON-24 Paragraph (c) stating that a project should "provide replacement of lost oak woodlands or preservation of like habitat at a 3:1 ratio."

Recommendation 3. Tree and vegetation removal must occur from September 1st to February 31st, outside of the general bird nesting season. If tree and vegetation removal during this time is not feasible, a pre-construction nesting bird survey must be performed by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance. The survey must cover the Project Area (including tree removal areas) and surrounding areas within 500 feet. If active bird nests are found during the survey, an appropriate no- disturbance buffer must be established by the qualified biologist. Once it is determined that the young have fledged (left the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

Recommendation 4. Deer fencing should be designed with exit gates and limited to the vineyard blocks. Fencing should use a design that has 6-inch square gaps at the base instead of the typical 3" by 6" rectangular openings to allow small mammals to move through the fence.

Recommendation 5. Grading shall occur during the dry season and must be suspended during unseasonable rainfalls of greater than one-half inch over a 24-hour period. If rainfall is in the forecast, standard erosion control measures (e.g., straw waddles, bales, silt fencing) must be deployed adjacent to ephemeral drainages. Construction personnel should be informed of the location of the site's aquatic resources with high-visibility flagging or staking prior to construction. No materials or equipment shall be stored near drainages on the property.

F. SUMMARY

This study is provided as background information necessary for evaluating potential impacts of the project on local Biological Resources.

Floristic surveys did not find any special-status plant species. Habitat impacted by the proposed project is typical of that found in the area. We find that the proposed project will not have a substantial adverse effect, either directly or through habitat modifications, on any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

No sensitive biotic communities or habitats of limited distribution on the county's Baseline Data Report are present on the project site.

We find that the project as proposed with implementation of Recommendations, will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

We find that the project as proposed with implementation of Recommendations, will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Following Recommendations within this report the proposed project will not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans.

We find that the proposed project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

We conclude that the proposed project following Recommendations included in this report and implementation of an Erosion Control Plan and best management practices, will not result in any significant adverse biological impacts to the environment.

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G.2 Qualifications of Field Investigators

Chris K. Kjeldsen, Ph.D., Botany, Oregon State University, Corvallis, Oregon. He has over forty years of professional experience in the study of California flora. He was a member of the Sonoma County Planning Commission and Board of Zoning (1972 to 1976). He has over thirtyfive years of experience in managing and conducting environmental projects involving impact assessment and preparation of compliance documents, Biological Assessments, CDFW Habitat Assessments, CDFW Mitigation projects, ACOE Mitigation projects and State Parks and Recreation Biological Resource Studies. Experience includes conducting special-status species surveys, jurisdictional wetland delineations, general biological surveys, 404 and 1600 permitting, and consulting on various projects. He taught Plant Taxonomy at Oregon State University and numerous botanical science and aquatic botany courses at Sonoma State University including sections on wetlands and wetland delineation techniques. He has supervised numerous graduate theses, NSF, DOE, CDFW, Department of Forestry and local agency grants and served as a university administrator.

Daniel T. Kjeldsen, B. S., Natural Resource Management, California Polytechnic State University, San Luis Obispo, California. He spent l994 to l996 in the Peace Corps managing natural resources in Honduras, Central America. His work for the Peace Corps in Central America focused on watershed inventory, mapping and the development and implementation of a protection plan. He has over twentyfive years of experience in conducting Biological Assessments, CDFW Habitat Assessments, ACOE wetland delineations, wetland rehabilitation, and development of and implementation of mitigation projects and mitigation monitoring. He has received 3.2 continuing education units MCLE 27 hours in Determining Federal Wetlands Jurisdiction from the University of California Berkeley Extension. Attended Wildlife Society Workshop Falconiformes of Northern California Natural History and Management California Tiger Salamander 2003, Natural History and Management of Bats Symposium 2005, Western Pond Turtle Workshop 2007, Laguna Foundation & The Wildlife Project Rare Pond Species Survey Techniques 2009, and Western Section Bat Workshop 2011. A full resume is available upon request.

Plate I. Location and Site Map (Rutherford Quadrangle)

N

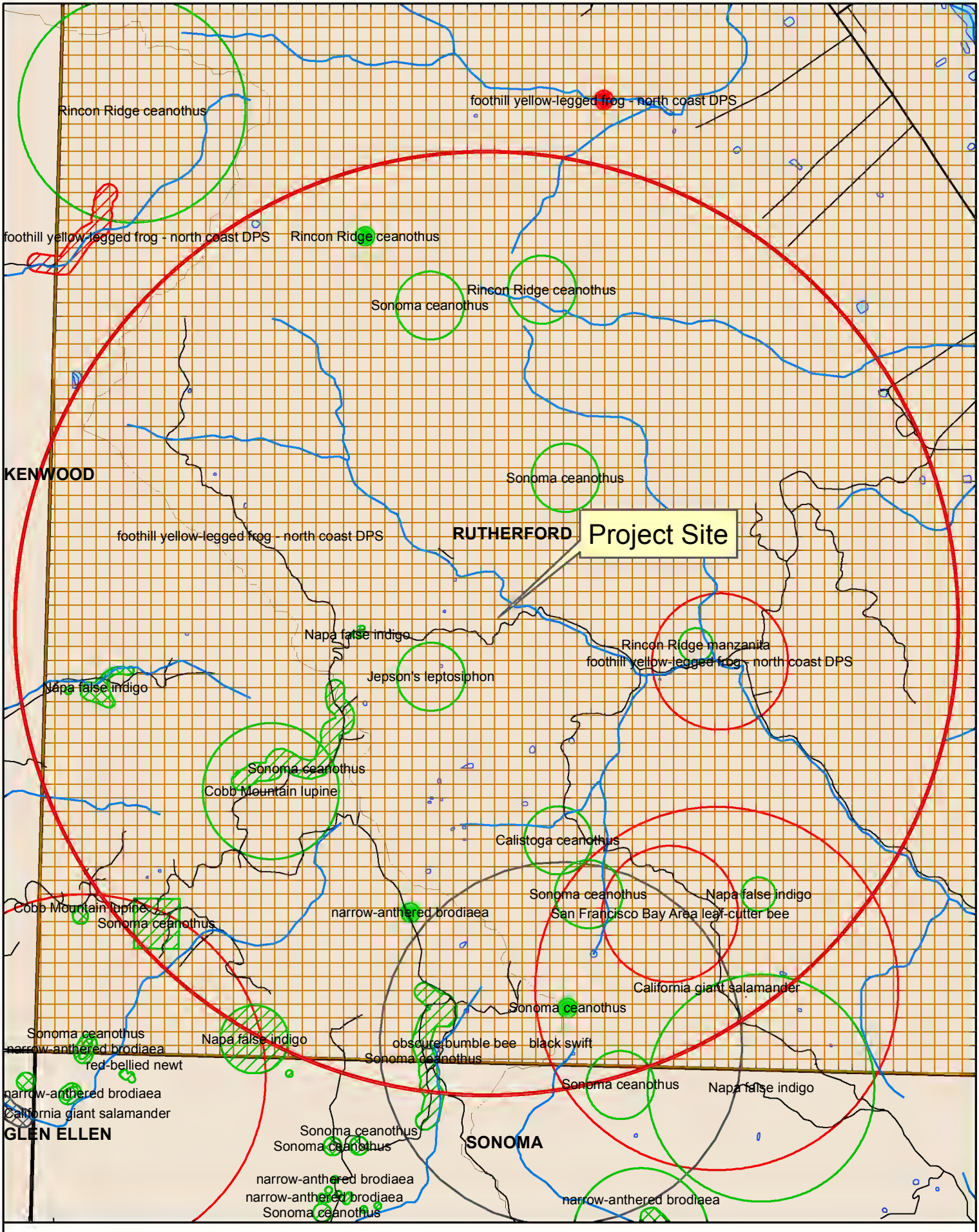


Plate II. CDFW CNDDB Rare Find Data

(Data Date September 2023)

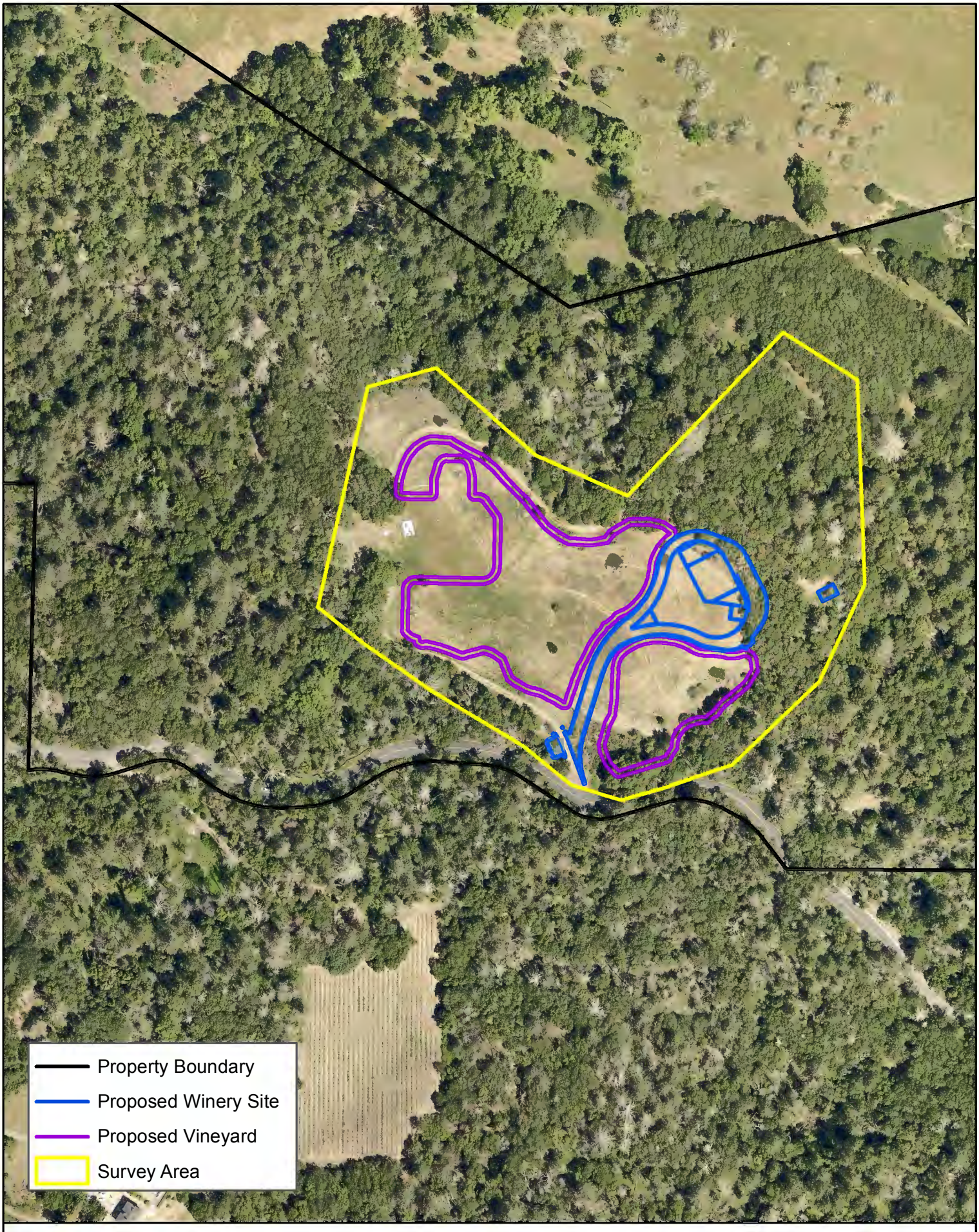


Plate III. Aerial Photo / Survey Area

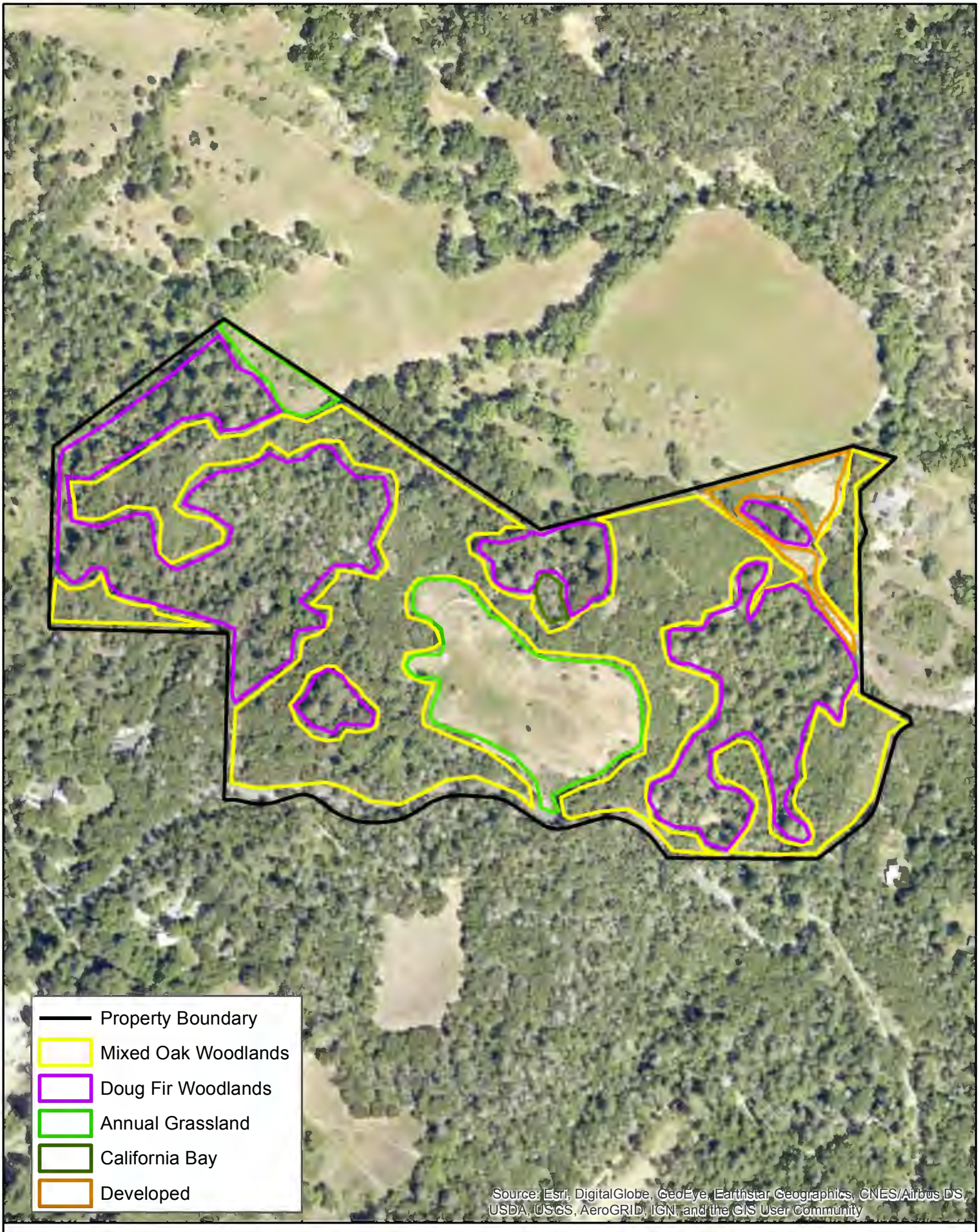


Plate IV. Vegetation Mapping

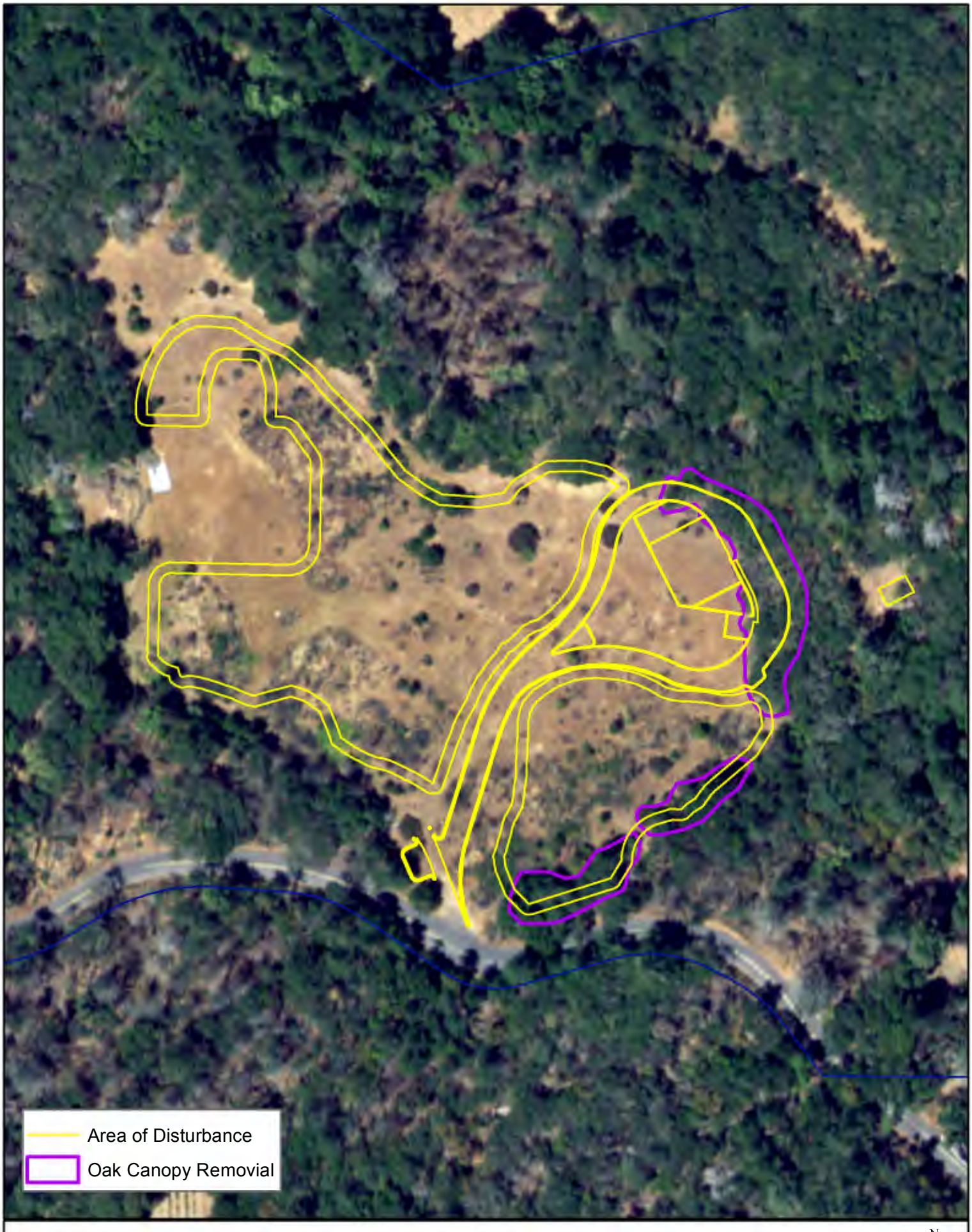


Plate V. Aerial Photo (2018)

APPENDIX A
Plants and Animals Observed On or Around the Project Site

PLANTS

The nomenclature for the list of plants found on the project site and the immediate vicinity follows: Irwin M. Brodo, Sylvia Duran Sharnoff and Stephen Sharnoff, 2001, for the lichens; S Norris and Shevrock - 2004, for the mosses; and B.G. Baldwin, D.H. Goldman, D.J. Keil, R. Patterson, T.J.Rosati, and D.H.Wilkens, editors, 2012 - for the vascular plants. The plant list is organized by major plant group.

Habitat type indicates the general associated occurrence of the taxon on the project site or in nature. **Abundance** refers to the relative number of individuals on the project site or in the region.

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

MOSSES

BRACHYTHECIACEAE

Homalothecium nuttallii (Wilson) Jaeger NCN	Logs, Tree Trunks, Rocks	Common
Kindbergia oregana (Sull) Ochyra NCN	Woodlands	Common

ORTHOTRICHACEAE

Orthotrichum lyellii Hook & Tayl. NCN	Woodlands, Upper Canopy	Common

LICHENS

FOLIOSE

Flavoparmelia caperata (L.) Hale Common Green Shield	On Bark	Common
@Parmelia sulcata Taylor Hamered Shield Lichen	On Bark	Common
@Parmotrema perlatum (Osbeck) Hale & Ahti=*P. chinense* NCN	On Oaks	Common
Xanthoria polycarpa (Hoffm.) Rieber Pin-cushion Sunburst Lichen	On Oaks Young Twigs	Common

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

FRUTICOSE

Evernia prunastri (L.) Ach. NCN	On Bark	Common
Ramalina farinacea (L.) Ach. NCN	On Oaks	Common
@Usnea intermedia=U. arizonica Western Bushy Beard	On Oaks	Common

GELATINOUS

@Leptogium lichenoides (L.) Zahlbr. Jelly Lichen	On Mossy Rocks or Soil	Common

VASCULAR PLANTS DIVISION CONIFEROPHYTA--GYMNOSPERMS

PINACEAE

Pseudotsuga menziesii (Vassey) Mayr var. *menziesii* Douglas-fir	Woodlands	Common

VASCULAR PLANTS FERNS

DENNSTAEDTIACEAE

Pteridium aquilinum (L.) var. *pubescens* Underw. Bracken Fern	Grasslands, Woodlands	Common

DRYOPTERIDACEAE

@ Dryotpteris arguta (Kaulf.) Maxon Coastal Wood Fern	Oak Woodlands	Common

PTERIDACEAE

Pentagramma triangularis (Kaulf.)G.Yatsk. subsp. *triangularis* Goldback Fern	Woodlands	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE- TREES

MAGNOLIIDS

LAURACEAE

Umbellularia californica (Hook.&Arn.) Nutt. California Laurel, Sweet Bay, Pepperwood, California Bay	Conifer&Oak Woodlands	Occasional

EUDICOTS

ERICACEAE Heath Family

Arbutus menziesii Pursh Madrone	Woodlands	Common

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

FAGACEAE Oak Family		
Quercus agrifolia Nee Live Oak	Woodlands	Common
Quercus garryana Hook. Oregon Oak	Woodlands	Common
Quercus kelloggii Newb. Black Oak	Woodlands	Common
Quercus lobata Nee. Valley Oak	Grasslands	Common
JUGLANDACEAE Walnut Family		
**Juglans nigra* L. Black Walnut	Ruderal Escape	Common
**Juglans regia* L. English Walnut	Ruderal	Common
ROSACEAE Rose Family		
**Crataegus monogyna* Jacq. Hawthorn)	`Naturalized Escape	Occasional
SAPINDACEAE Soapberry Family		
Acer macrophyllum Prush Big-leaf Maple	Stream Banks, Canyons	Common
Aesculus californica (Spach) Nutt. California Buckeye	Woodlands,	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE-SHRUBS AND WOODY VINES

EUDICOTS

ADOXACEAE Muskroot Family		
Sambucus nigra subsp *caerulea* (Raf.) Bolli Blue Elderberry (=*S. mexicana, S. caerulea)*	Woodlands	Occasional
ANACARDIACEAE Sumac Family		
Toxicodendron diversilobum (Torry&Gray) E.Green Poison Oak	Woodlands	Common
APOCYANACEAE Dogbane Family		
**Vinca major* L. Periwinkle	Woodlands, Ruderal	Common
ASTERACEAE (Compositae) Sunflower Family		
Baccharis pilularis deCandolle Coyote Brush	Woodlands, Grasslands	Common

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

CAPRIFOLIACEAE Honeysuckle Family		
Lonicera hispidula Douglas var. *vacillans* Honeysuckle	Woodlands	Occasional
*Symphoricarpos albu*s (L.) SF Blake *var. laevigatus* Snowberry	Riparian, Shrub/Scrub Woodlands	Common
ERICACEAE Heath Family		
Arctostaphylos manzanita Parry ssp. *glaucesens* Common Manzanita	Woodlands	Common
FABACEAE (Leguminosae) Legume Family		
Acmispon glabor (Vogel) Bouillet Deerweed, California Broom (=*Lotus scoparius*)	Grasslands	Common
**Genista monspessulana* (L.) Johnson Broom, French Broom	Woodlands	Common
PHRYMACEAE Lopseed Family		
Mimulus aurantiacus Curtis Bush Monkey Flower	Woodlands	Occasional
RHAMNACEAE Buckthorn Family		
Frangula californica (Eschsch.) A.Gray ssp. *californica* California Coffee Berry (=*Rhamnus californica)*	Woodlands	Common
**Genista monspessulana* (L.) Johnson Broom, French Broom	Woodlands	Common
ROSACEAE Rose Family		
Heteromeles arbutifolia (Lind.) M. Rome. Christmas Berry, Toyon	Woodlands	Common
Rosa gymnocarpa Nuttall. Wood Rose	Woodlands	Occasional
**Rubus armeniacus* Focke Himalayan Blackberry	Ruderal	Common
Rubus leucodermis Torr.&A. Gray Western Raspberry	Woodlands	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE-HERBS

EUDICOTS

APIACEAE (Umbelliferae) Carrot Family		
**Dacus carota* L. Wild Carrot, Queen Anne's Lace	Ruderal Grasslands	Common
Lomatium californicum (Nutt.)Mathias&Const. Lomatium	Woodland, Brush Slopes	Occasional

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

Sanicula crassicaulis DC. Pacific Sanicle	Woodlands	Common
**Torilis arvensis* (Huds.) Link Hedge-parsley	Grasslands Woodlands	Common
ASTERACEAE (Compositae) Sunflower Family		
Achillea millefolium L. Yarrow	Ruderal	Common
Artemesia douglasiana Besser Mugwort	Moist Areas	Common
**Carduus pycnocephalus* L.subsp.*pycnocephalus* Italian Thistle	Woodlands	Common
**Centaurea solstitalis* L. Yellow Star Thistle	Grasslands, Ruderal	Common
Gamochaeta ustulata (Nutt.) Holub. Purple Cudweed (=*Gnaphalium purpureum)*	Ruderal, Grasslands	Common
**Helminthotheca echioides* (L.) Holub Ox-tongue (=*Picris echioides)*	Ruderal	Common
**Lactuca serriola* L. Prickly Lettuce	Ruderal	Occasiona
**Logifa gallica* (L.) Cros&Germ Herba Impa, Daggerleaf Cottonrose (=*Filago gallica)*	Ruderal Grasslands	Common
Madia elegans D.Don Common Madia	Ruderal, Grasslands	Common
Micropus californicus var. *californicus* Fisch.&C.A.Mey Slender Cottonweed	Grasslands	Occasional
**Rhagadiolus stellatus* (L.) Green Wild Endive	Ruderal invasive	Common
**Senecio vulgaris* L. NCN	Ruderal	Occasional
**Silybum marianum* (L.) Gaertn. Milk Thistle	Ruderal	Common
**Sonchus asper* (L.) Hill var. *asper* Prickly Sow Thistle	Ruderal	Common
Wyethia glabra A.Gray Coast Mules Ears	Edge of Woodlands	Common
BORAGINACEAE Borage or Waterleaf Family		
Amsinckia menziesii (Lehm) Nelson&Macbr. Rancher's Fireweed	Grasslands	Occasional

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

Cyanoglossum grande Lehm. Hound's Tongue	Woodlands	Common
Nemophila parviflora Hook.&Arn. var. *parviflora* Nemophila	Woodlands	Occasional
Plagiobothrys nothofulvus (A.Gray)A. Gray Popcorn Flower	Grasslands, Woodlands	Common
BRASSICACEAE Mustard Family		
**Brassica nigra* (L.) Koch Black Mustard	Ruderal	Common
**Cardamine hirsuta* L. Bitter-cress	Ruderal	Common
**Raphanus sativus* L. Wild Radish	Ruderal	Common
**Sisymbrium officinalis* L. Hedge Mustard	Ruderal, Grasslands	Common
CARYOPHYLLACEAE Pink Family		
**Cerastium fontanum* Baumg. subsp.*vulgare* Mouse-ear-chickweed	Ruderal	Common
CONVOLVULACEAE Morning-glory Family		
Convolvulus arvensis L. Morning-glory, Bindweed	Grasslands	Common
FABACEAE (Leguminosae) Legume Family		
Acmispon micranthus (Torr.&A. Gray) Small Flowered Lotus (= *Lotus micranthus)*	Grasslands, Ruderal	Common
**Lathyrus cicera* L. Red Pea	Ruderal, Open Grassland	Occasional
Lathyrus vestitus Nutt. var. *vestitus* Hillside Pea	Woodlands	Occasional
**Lotus corniculatus* L. Bird's-foot Trefoil	Grasslands, Ruderal	Common
Lupinus latifolius J.Agardh ssp. *latifolius* Broadleaved Lupine	Open Woodlands	Occasional
Lupinus nanus Benth. Sky Lupine	Grasslands	Common
**Medicago polymorpha* L. Bur Clover	Ruderal, Grasslands	Common
**Trifolium hirtum* All. Rose Clover	Ruderal	Common

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

**Trifolium incarnatum* L. Crimson Clover	Grasslands, Ruderal	Common
**Vicia villosa* Roth. subsp. *villosa* Hairy Vetch, Winter Vetch	Ruderal	Common
GERANIACEAE Geranium Family		
**Erodium botrys* (Cav.) Bertol. Broadleaf Filaree, Long-beaked Filaree	Grasslands	Common
**Geranium dissectum* L. Common Geranium	Grasslands	Common
**Geranium robertianum* L. Red Robin	Canyons Oak Woodland, Shady	Common
GENTIANACEAE Gentianaceae Family		
Centaurium muehlenbergii (Griseb.) Mans. Centaury	Ruderal/Woodlands	Common
LAMIACEAE (Labiatae) Mint Family		
Stachys ajugoides Benth. Hedge-nettle	Moist Open Places	Occasional
MALVACEAE Mallow Family		
**Malva parviflora* L. Cheeseweed, Mallow	Ruderal	Common
ONAGRACEAE Evening-primrose Family		
Clarkia purpurea (Curtis) Nels.&Macbr. subsp. *quadrivulnera* Godetia, Wine-cup Clarkia	Grasslands	Common
Epilobium ciliatum Raf. Subsp. *ciliatum* Northern Willow Herb	Ruderal	Common
OROBANCHACEAE Broomrape Family		
Castilleja affinis subsp. *affinis* Hook. & Am. Indian Paintbrush	Grasslands Dry Brushy	Common
Castilleja attenuata (A.Gray) Chuang&Heckard Valley Tassels	Grasslands	Common
Cordylanthus pilosus A. Gray subsp. *pilosus* Bird's Beak	Oak Woodland	Occasional
PLANTAGINACEAE Plantain Family		
**Kickxia spuria* (L.) Dumort. Fluellin	Ruderal	Occasional
Plantago erecta E.Morris California Plantain	Grassland, Open Woodland	Common
**Plantago lanceolata* L. English Plantain	Ruderal	Common

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

POLYGONACEAE Buckwheat Family		
**Rumex acetosella* L. Sheep Sorrel	Ruderal	Common
**Rumex crispus* L. Curly Dock	Ruderal	Common
PRIMULACEAE Primrose Family		
**Anagallis arvensis*L. Scarlet Pimpernel	Ruderal	Common
Dodecatheon hendersonii A. Gray Shooting Star, Mosquito Bills	Woodlands	Common
RANUNCULACEAE Buttercup Family		
Ranunculus californicus Benth. Buttercup	Grasslands, Woodlands	Common
ROSACEAE Rose Family		
Fragaria vesca L. Wood Strawberry	Woodlands/Grasslands	Common
RUBIACEAE Madder Family		
Galium aparine L. Goose Grass	Woodlands, Ruderal	Common
Galium californicum Hook.&Arn. subsp. *californicum* California Bedstraw, Cleavers	Woodlands	Occasional

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-GRASSES

POACEAE Grass Family		
**Briza minor* L. Small Quaking Grass	Grasslands, Ruderal	Common
**Bromus diandrus* Roth Ripgut Grass	Ruderal, Grasslands	Common
**Bromus hordeaceus* L. Soft Chess, Blando Brome (*B.mollis*)	Grasslands	Common
**Cynosurus echinatus* L. Hedgehog, Dogtail	Ruderal	Common
Elymus glaucus Buckley ssp. *glaucus* Common Blue Wildrye	Woodlands	
Festuca microstachys Nutt. NCN (*=Vulpia microstachys)*	Grasslands, Ruderal	Common

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

**Festuca myuros* L. Rattail Fescue,Zorro Annual Fescue (*=Vulpia myuros)*	Grasslands	Common
Festuca occidentalis Hook. Western Fescue	Open Forests, Woodlands	Occasional
**Festuca perennis* (L.) Columubus & Sm. Perennial Rye Grass (*=Lolium multiflorum, L. perenne)*	Grasslands	Common
Gastridium phleoides (Nees& Meyen) Hubb. Nit Grass (*=Gastridium ventricosum)*	Ruderal, Grasslands	Occasional
**Hordeum murinum* Huds. subsp. *leporinum* Farmers Foxtail	Grasslands	Common
Melica torreyana Schribn. Torrey's Melic	Woodlands	Occasional
**Phalaris aquatica* L. Harding Grass	Grasslands	Common
**Poa annua* L. Annual Bluegrass	Grasslands	Common
Stipa pulchra Hitchc. Purple Needle Grass (*=Nassella pulchra)*	Oak Woodland, Grasslands,	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-SEDGES AND RUSHES

JUNCACEAE Juncus Family		
Juncus bufonius L.var. *bufonius* Toad Rush	Ruderal Moist Areas, Grasslands	Common
Juncus patens Mey Spreading Rush	Seeps	Common
Luzula comosa Mey var. *comosa* Wood Rush	Grasslands, Woodlands	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-HERBS

AGAVACEAE Centuray Plant Family		
Chlorogalum pomeridianum (DC.) Kunth var. *pomeridianum* Soap Plant	Woodlands, Grasslands	
IRIDACEAE Iris Family		
Iris macrosiphon Torr. Long-tubed Iris	Grassy Hillsides	Occasional

MAJOR PLANT GROUP Family Genus Common Name	Habitat Type	Abundance

NCN = No Common Name, * = Non-native, @= Voucher Specimen

Sisyrinchium bellum Watson Blue-eyed Grass	Grasslands	Common
THEMIDACEAE Brodiaea Family		
Dichelostemma capitatum (Benth.) Wood Blue Dicks	Grasslands, Open Woodlands	Occasional
Triteleia laxa Greene Ithuriel's Spear	Grasslands	Occasional

Fauna Species Observed in the Vicinity of the Project Site

The nomenclature for the animals found on the project site and in the immediate vicinity follows: Mc Ginnis–1984, for the fresh water fishes; Stebbins-l985, for the reptiles and amphibians; Udvardy and Farrand–1998, for the birds; and Jameson and Peeters -l988 for the mammals.

AVES		
ORDER		
Common Name	**Genus**	**Observed**
AVES		
Acorn Woodpecker	*Melanerpes fomicivorus*	X
American Robin	*Turdus migratorius*	X
Common Crow	*Corvus brachyrhynchos*	X
California Quail	*Callipepla californica*	X
Northern Flicker	*Colaptes auratus*	X
Red-tailed Hawk	*Cathartes aura*	X
Tree Swallow	*Tachycineta Bicolor*	X
Turkey Vulture	*Cathartes aura*	X
Mourning Dove	*Zenaida macroura*	X
Violet-green Swallow	*Tachycineta thalassina*	X
Western Bluebird	*Sialia mexicana*	X
Wild Turkey	*Meleagris gallopavo*	X

MAMMALS		
ORDER		
Common Name	**Genus**	**Observed**
CERVIDAE		
Black-tailed Deer	*Odocoileus hemionus*	Sight
RODENTIA		
Pocket Gopher	*Thomomys bottae*	Sight

APPENDIX B

CNPS Special Status-species Listed for the Project Quadrangle and Surrounding Quadrangles

CDFW CNDDB Rare Find Special-status Species Listed for the Quadrangle and Surrounding Quadrangles

U.S. Fish and Wildlife IPAC Service Listed Species for the Project Site

CALIFORNIA NATIVE PLANT SOCIETY

Search Results

7 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3812244**], Habitat is one of [**VFGrs**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	G3	S3	1B.2	Yes	1974-01-01	 © 2011 Neal Kramer
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	Mar-May	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	None	None	G3?	S3?	1B.2	Yes	2001-01-01	 © 2018 Zoya Akulova
Eryngium jepsonii	Jepson's coyote-thistle	Apiaceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2	Yes	2016-09-13	No Photo Available
Leptosiphon aureus	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2	Yes	1994-01-01	 © 2007 Len Blumin
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	None	None	G2G3	S2S3	1B.2	Yes	2001-01-01	 © 2012 Aaron Arthur
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2		1974-01-01	No Photo Available

Showing 1 to 7 of 7 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 5 September 2023].

California Department of Fish and Wildlife
RareFind

Query Summary:
Quad IS (Calistoga (3812255) OR St. Helena (3812254) OR Chiles Valley (3812253) OR Kenwood (3812245) OR Rutherford (3812244) OR Yountville (3812243) OR Glen Ellen (3812235) OR Sonoma (3812234) OR Napa (3812233))
AND Habitat IS (Valley & foothill grassland)

CNDDB Element Query Results

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Habitats
Allium peninsulare var. franciscanum	Franciscan onion	None	None	G4G5T2	S2	1B.2	Cismontane woodland, Ultramafic, Valley & foothill grassland
Ambystoma californiense pop. 3	California tiger salamander - Sonoma County DPS	Endangered	Threatened	G2G3T2	S2	null	Cismontane woodland, Meadow & seep, Riparian woodland, Valley & foothill grassland, Vernal pool, Wetland
Ammodramus savannarum	grasshopper sparrow	None	None	G5	S3	null	Valley & foothill grassland
Amsinckia lunaris	bent-flowered fiddleneck	None	None	G3	S3	1B.2	Cismontane woodland, Coastal bluff scrub, Valley & foothill grassland
Antrozous pallidus	pallid bat	None	None	G4	S3	null	Chaparral, Coastal scrub, , Valley & foothill grassland
Aquila chrysaetos	golden eagle	None	None	G5	S3	null	Broadleaved upland forest, , Valley & foothill grassland
Astragalus claranus	Clara Hunt's milk-vetch	Endangered	Endangered	G1	S1	1B.1	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland

Astragalus tener var. tener	alkali milk-vetch	None	None	G2T1	S1	1B.2	Alkali playa, Valley & foothill grassland, Vernal pool, Wetland
Athene cunicularia	burrowing owl	None	None	G4	S2	null	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Balsamorhiza macrolepis	big-scale balsamroot	None	None	G2	S2	1B.2	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Blennosperma bakeri	Sonoma sunshine	Endangered	Endangered	G1	S1	1B.1	Valley & foothill grassland, Vernal pool, Wetland
Brodiaea leptandra	narrow-anthered brodiaea	None	None	G3?	S3?	1B.2	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland
Buteo regalis	ferruginous hawk	None	None	G4	S3S4	null	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	None	Threatened	G5	S4	null	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Centromadia parryi ssp. parryi	pappose tarplant	None	None	G3T2	S2	1B.2	Chaparral, Coastal prairie, Marsh & swamp, Meadow & seep,

							Valley & foothill grassland
Corynorhinus townsendii	Townsend's big-eared bat	None	None	G4	S2	null	Broadleaved upland forest, Valley & foothill grassland
Downingia pusilla	dwarf downingia	None	None	GU	S2	2B.2	Valley & foothill grassland, Vernal pool, Wetland
Elanus leucurus	white-tailed kite	None	None	G5	S3S4	null	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Eryngium jepsonii	Jepson's coyote-thistle	None	None	G2	S2	1B.2	Valley & foothill grassland, Vernal pool
Extriplex joaquinana	San Joaquin spearscale	None	None	G2	S2	1B.2	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland
Fritillaria liliacea	fragrant fritillary	None	None	G2	S2	1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Ultramafic, Valley & foothill grassland
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	None	None	G5T2	S2	1B.2	Valley & foothill grassland
Horkelia tenuiloba	thin-lobed horkelia	None	None	G2	S2	1B.2	Broadleaved upland forest, Chaparral, Valley & foothill grassland
Lasthenia conjugens	Contra Costa goldfields	Endangered	None	G1	S1	1B.1	Alkali playa, Cismontane woodland, Valley & foothill grassland, Vernal pool, Wetland
Layia septentrionalis	Colusa layia	None	None	G2	S2	1B.2	Chaparral, Cismontane woodland,

							Ultramafic, Valley & foothill grassland
Leptosiphon jepsonii	Jepson's leptosiphon	None	None	G2G3	S2S3	1B.2	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Limnanthes vinculans	Sebastopol meadowfoam	Endangered	Endangered	G1	S1	1B.1	Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	G4T2	S2	1B.1	Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Plagiobothrys strictus	Calistoga popcornflower	Endangered	Threatened	G1	S1	1B.1	Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Poa napensis	Napa blue grass	Endangered	Endangered	G1	S1	1B.1	Meadow & seep, Valley & foothill grassland, Wetland
Puccinellia simplex	California alkali grass	None	None	G2	S2	1B.2	Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool
Taxidea taxus	American badger	None	None	G5	S3	null	North coast coniferous forest, , Upper Sonoran scrub, Valley & foothill grassland
Trichostema ruygtii	Napa bluecurls	None	None	G1G2	S1S2	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland, Vernal pool, Wetland
Trifolium amoenum	two-fork clover	Endangered	None	G1	S1	1B.1	Coastal bluff scrub, Ultramafic,

							Valley & foothill grassland
Trifolium hydrophilum	saline clover	None	None	G2	S2	1B.2	Marsh & swamp, Valley & foothill grassland, Vernal pool, Wetland
Valley Needlegrass Grassland	Valley Needlegrass Grassland	None	None	G3	S3.1	null	Valley & foothill grassland

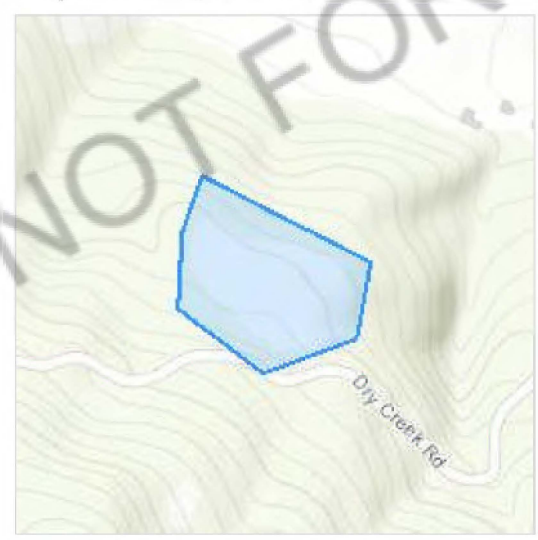
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Napa County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. **Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).**

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

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Northern Spotted Owl Strix occidentalis caurina Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle Chelonia mydas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS

Clara Hunt's Milk-vetch Astragalus clarianus Endangered

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3300

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

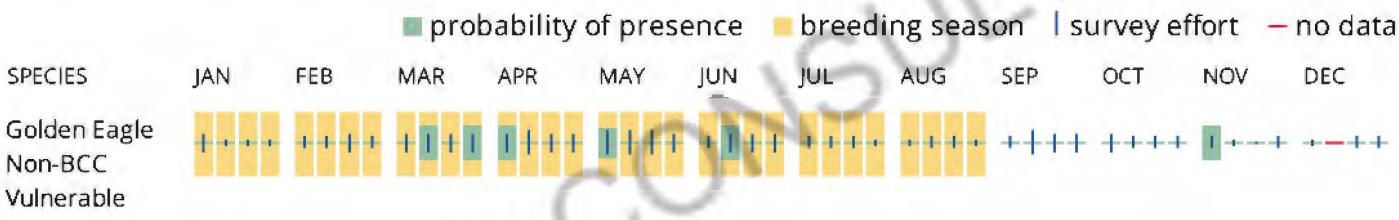
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Long-eared Owl asio otus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. **The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.**
2. **To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.**
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

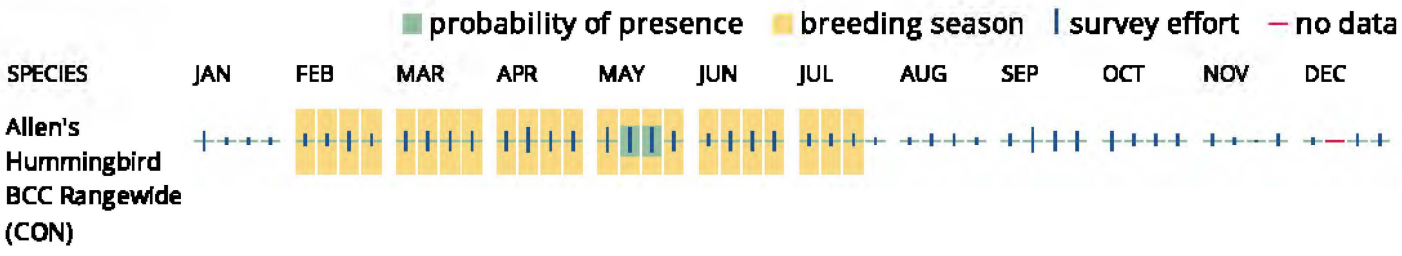
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

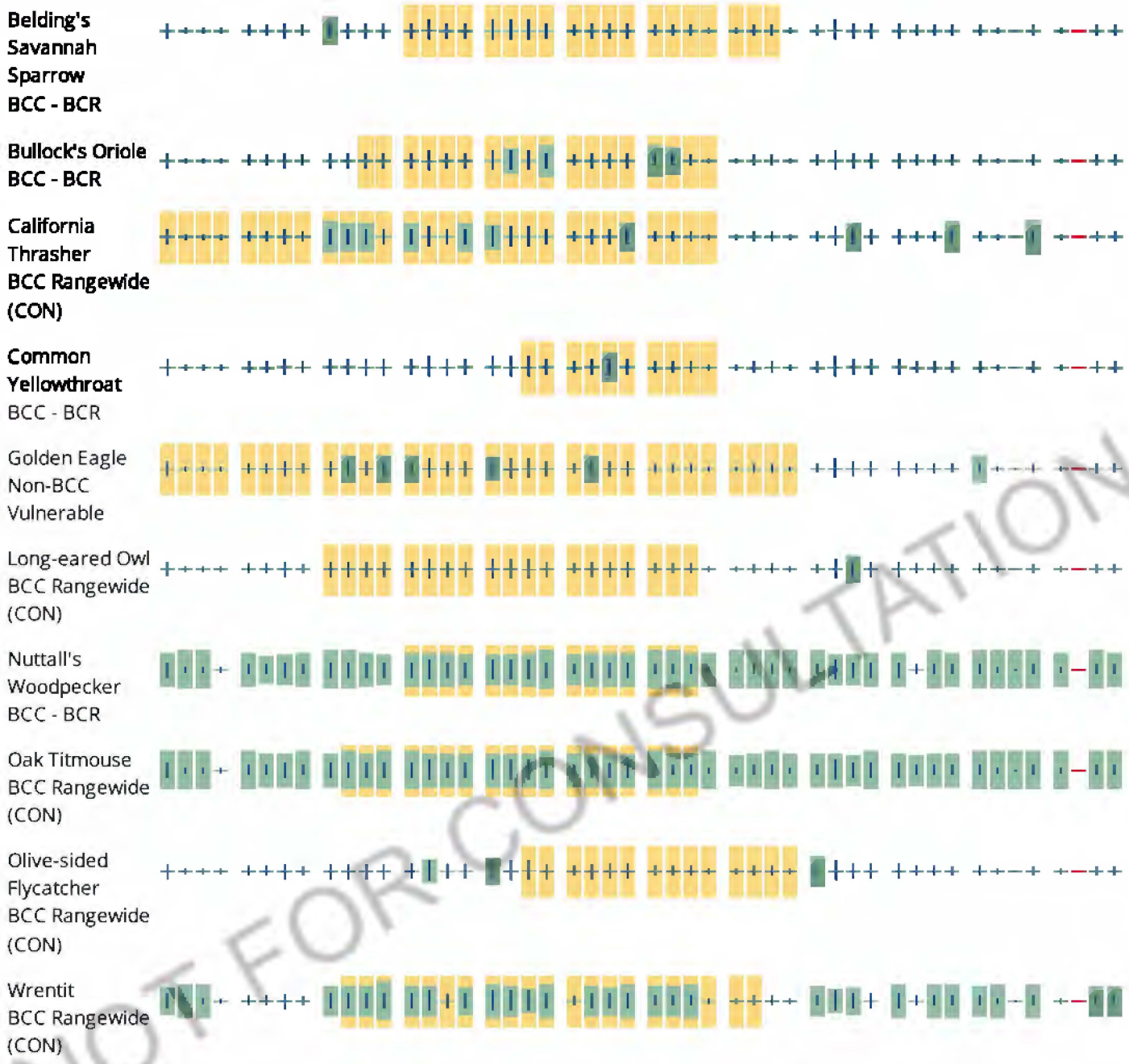
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird **returns are based on all years of available data, since data in these areas is currently much more sparse.**





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does not replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C

Northern Spotted Owl (*Strix occidentalis caurina*) survey
April 17, 2022

Forest Ecosystem Management
1692 East Road * Deary, ID 83823
(406) 490-7427 * Pamtown30@gmail.com

Northern Spotted Owl Information for Basil Project

Completed by: Pamela Town, Consulting Wildlife Biologist
April 17, 2022

Northern Spotted Owls (*Strix occidentalis caurina)*

Northern Spotted Owls (NSO) are listed as Threatened under both the Federal Endangered Species Act (ESA) and California State Endangered Species Act (CESA), as well as Sensitive under California Department of Forestry and Fire Protection (CalFire). They are a common to uncommon owl in the coniferous forest of the Pacific Northwest (PNW), ranging from southern British Columbia south to Marin County in northwestern California.

The northern spotted owl is a subspecies of spotted owl (*Strix occidentalis)* found in western North America. They are a medium-sized (16 to 20 inches) dark brown owl with a barred tail, white spots on their head and breast; and dark brown eyes surrounded by a prominent facial disk. The northern spotted owl is a permanent resident in suitable habitat residing in dense, old-growth, and multi-layered second-growth stands of mixed conifer, redwood, and Douglas-fir habitats.

Northern Spotted Owls are rodent specialists, primarily feeding on woodrats (*Neotoma fuscipes*), deer mice (*Peromyscus spp*.), Sonoma tree voles (*Arborimus pomo*), voles (*Microtus spp.)* and northern flying squirrels (*Glaucomys sabrimus*); but has been known to consume small birds, bats, amphibians, and large arthropods. Foraging is completed by searching for prey from a perch and swooping/pouncing on the prey. NSOs usually nest in stick nests (mistletoe clump, abandoned raptor or squirrel nest), in a cavity tree or snag, or in the broken top of a large tree. In the interior region of their range (as seen in Napa County), there appears to be a preference to well-shaded habitat in narrow, steep-sided canyons with north or east-facing slopes to assist in thermoregulatory needs, as they are intolerant of high temperatures.

Spotted owl life-history traits suggest coevolution with late-seral, old growth forests, and second growth forest with scattered late-seral characteristics. They are relatively long-lived and have high adult survival, low reproductive output, and high parental investment in offspring.

Threats to the northern spotted owl include increased competition, and perhaps predation, from the barred owl (*Strix varia).* In addition to the threats from the barred owls, spotted owl populations may

also be negatively impacted by unregulated activities that modify habitat and introduce toxic substances into the environment and food chain (i.e. illegal logging, development, marijuana cultivation, etc.).

This Assessment is for the Basil Project located off Dry Creek Road, Oakville, California; which occurs within the range of the Northern Spotted Owl.

Project General Information

Project Location: Oakville, California (Attachment #1)
Legal Description: Portions of Section 31, T07N, R05W MDB&M
County: Napa County
Access: Dry Creek Road
Proposed Project:

- Build a home and put in driveway

Known Northern Spotted Owl Territories

According to the California Department of Fish & Wildlife's spotted owl viewer dated 17APR22, there are four known northern spotted owl territories within 1.3 miles of the Property (Attachment #2). The 1.3-mile assessment area was created by USFWS for a Take Avoidance of northern spotted owls within the California Interior (outside the redwood zone). Although Napa County does have redwoods, the environmental conditions in the area are hotter/drier than the coastal redwood zone; therefore, the 1.3-mile assessment area was used for this Project. The following briefly discussed the history of the four known territories:

NAP008: This territory is located approximately ½ mile from the Project Area. The territory was first identified in 1989 with a pair. From 1989 through 2015, the territory was monitored and found active every year except 1999 and 2001. The activity center it based upon a 2012 pair, with later years' detections close to this activity center. Due to this territory's location and behavior; they have historically been used for educational "show me" trips. More recent monitoring efforts, nocturnal surveys for this project (Basil Station #4) occurred in 2021 and 2022 with no owls detected to date.

NAP009: This territory is located over a mile (1.09 miles) from the Project Area. The territory was first identified in 1989 with a pair. From 1989 through 2015, the territory was monitored and found active every year. The activity center is based upon a 2015 pair. The owls move up and down Montgomery Creek, both within and between given breeding seasons. More recent monitoring efforts, nocturnal surveys for another project, are occurring in 2022 with a pair of NSO detected near the historic activity center.

NAP0036: This territory is located approximately ½ mile from the Project Area. The territory was first identified in 1995. From 1995 through 2015, the territory was monitored and found active every year except 2000. The activity center is based upon a 2013 pair, with later years' detections close to this activity center. More recent monitoring efforts, nocturnal surveys for this project (Basil Station #2) occurred in 2021 and 2022 with no owls detected to date.

NAP0042: This territory is located over a mile (1.1 miles) from the Project Area. The territory was first identified in 2008. This territory was monitored in 2008 and 2011 through 2013 and was found active

each year. The activity center is based upon a 2012 pair. More recent monitoring efforts are unknown or were not completed.

Northern Spotted Owl Surveys

At this time, there are on-going northern spotted owl surveys for this parcel. Four survey stations are being used, with 2 stations (Station #2 and Station #4) monitoring known NSO activity centers. Station #3 is located within the project's location parcel, with the last station (Station #1) surveying additional NSO habitat in the area.

This year is the second year of the 2-year NSO Survey Protocol (Table #1). No NSOs or barred owls have been detected from these 4 survey stations.

Table #1. Surveys for the Basil Parcel

Date	Survey Station	Survey Time	Findings & Notes
15MAR21	3	1959 – 2009	N/R
Survey #1	4	2014 – 2024	N/R
	2	2030 – 2040	N/R
	1	2046 - 2056	N/R
30MAR21	1	2125 -2135	N/R
Survey #2	3	2142 – 2152	N/R
	4	2157 – 2207	N/R
	2	2215 – 2225	N/R
15APR21	1	2221 – 2231	N/R
Survey #3	2	2342 – 2352	N/R
	3	2356 – 0006	N/R
	4	0011 – 0021	N/R
26APR21	1	2033 – 2043	N/R
Survey #4	3	2100 – 2110	N/R
	4	2116 – 2126	N/R
	2	2135 – 2145	N/R
11MAY21	4	2237 – 2247	N/R
Survey #5	3	2252 – 2302	N/R
	1	2310 – 2320	N/R
	2	2326 - 2336	N/R
04JUN21	1	2242 – 2252	N/R
Survey #6	2	2304 – 2314	N/R
	3	2318 – 2328	N/R
	4	2334 - 2344	N/R

17MAR22	1	2110 – 2120	N/R – frogs, neighbor
Survey #1	2	2127 – 2137	N/R – frogs, cars
	3	2053 – 2103	N/R
	4	2040 - 2050	N/R
03APR22	1	2022 – 2032	N/R - frogs
Survey #2	2	2006 – 2016	N/R - frogs
	3	2037 – 2047	N/R
	4	2050 – 2100	N/R - cars

N/R = No Response from Northern Spotted Owl
NOTE: Surveys are on-going in 2022 – 6 survey visits anticipated

Northern Spotted Owl Habitat

The general attributes for northern spotted owl habitat include a forest with:

- Dense, multi-layered canopy of several tree species.
- Trees of varying sizes and ages.
- Abundant logs, snags/cavity trees, and trees with broken tops or platform-like substrates (i.e., broken tops, mistletoe, debris piles, or old raptor/squirrel nests).
- Open spaces among lower branches to allow flight under the canopy.

USFWS Northern Spotted Owl Take Avoidance Analysis – Interior (Attachment B) dated 27FEB08 further defines NSO habitat as follows:

- High Quality Nesting/Roosting Habitat: Mixed tree species with basal area of 210+ ft2 and ≥ 15" quadratic mean diameter, and ≥ 8 trees per acre of trees ≥ 26" in diameter at breast height, and ≥ 60% canopy closure.
- Suitable Nesting/Roosting Habitat: Mixed tree species with basal area ranging from 150 - 180+ ft2 and ≥ 15" quadratic mean diameter, and ≥ 8 trees per acre of trees ≥ 26" in diameter at breast height, and ≥ 60% canopy closure.
- Suitable Forging Habitat: Mixed tree species with basal area ranging from 120 - 180+ ft2 and ≥ 13" quadratic mean diameter, and ≥ 5 trees per acre of trees ≥ 26" in diameter at breast height, and a mix of ≥ 40% to 100% canopy closure.
- Low Quality Foraging Habitat: Mixed tree species with basal area ranging from 80 - 120+ ft2 and ≥ 11" quadratic mean diameter, and ≥ 40% canopy closure.

Project Boundary:

The House site and driveway is located within an approximate 5-acre patch of non-timberland grasses; therefore, unsuitable northern spotted owl habitat. The Property and surrounding landscape does have some attributes that meet USFWS definitions of suitable NSO habitat; with much of the area impacted by the 2017 Nuns Wildfire.

Northern Spotted Owl Protection Measures

The house site does not have suitable northern spotted owl habitat due to vegetation type, grassy opening with lack of trees. There is suitable northern spotted owl habitat within ¼ mile of the Project Boundary and two known northern spotted owl territories within ½ mile of the Project Boundary. The surrounding landscape was impacted by the 2017 Nuns Wildfire. To protect potential northern spotted owls and their habitat in the area the following Options are recommended prior to use of heavy equipment, either option is valid:

Option #1:

- Disturbance- Only NSO surveys will be required prior to initial heavy equipment operations.
    - Activities that do not modify spotted owl habitat but will result in potential disturbance to spotted owls represent short-term effects compared to the long-term effects of habitat modification.
    - Disturbance-Only surveys allow for a one-year six visit survey.
        - Six Survey visits are required the first year. At least 1 survey visit should be after 01JUN.
        - If heavy equipment is not completed by the following NSO breeding season (01FEB), survey visits each year should occur in years two and three.

OR

Option #2:

- No spotted owl surveys with seasonal restrictions to heavy equipment operations.
    - Seasonal restrictions are no heavy equipment operations between 01FEB – 09JUL.

NOTE: Six survey visits were completed in 2021 with no NSOs or barred owls detected. In 2022, survey visits are currently on-going.

If Project Boundary expects to expand into the forested area, a new northern spotted owl review will be required. This information is based upon a Project Boundary within unsuitable NSO habitat (grassy opening adjacent to the timbered line).

Attachments & References

Attachment #1 – Map of Project Area and NSO Territories (1 page)
Attachment #2 – Spotted Owl Sites from CA Fish & Wildlife (1 page)
Attachment #3 – Map of NSO Stations (1 page)

References:

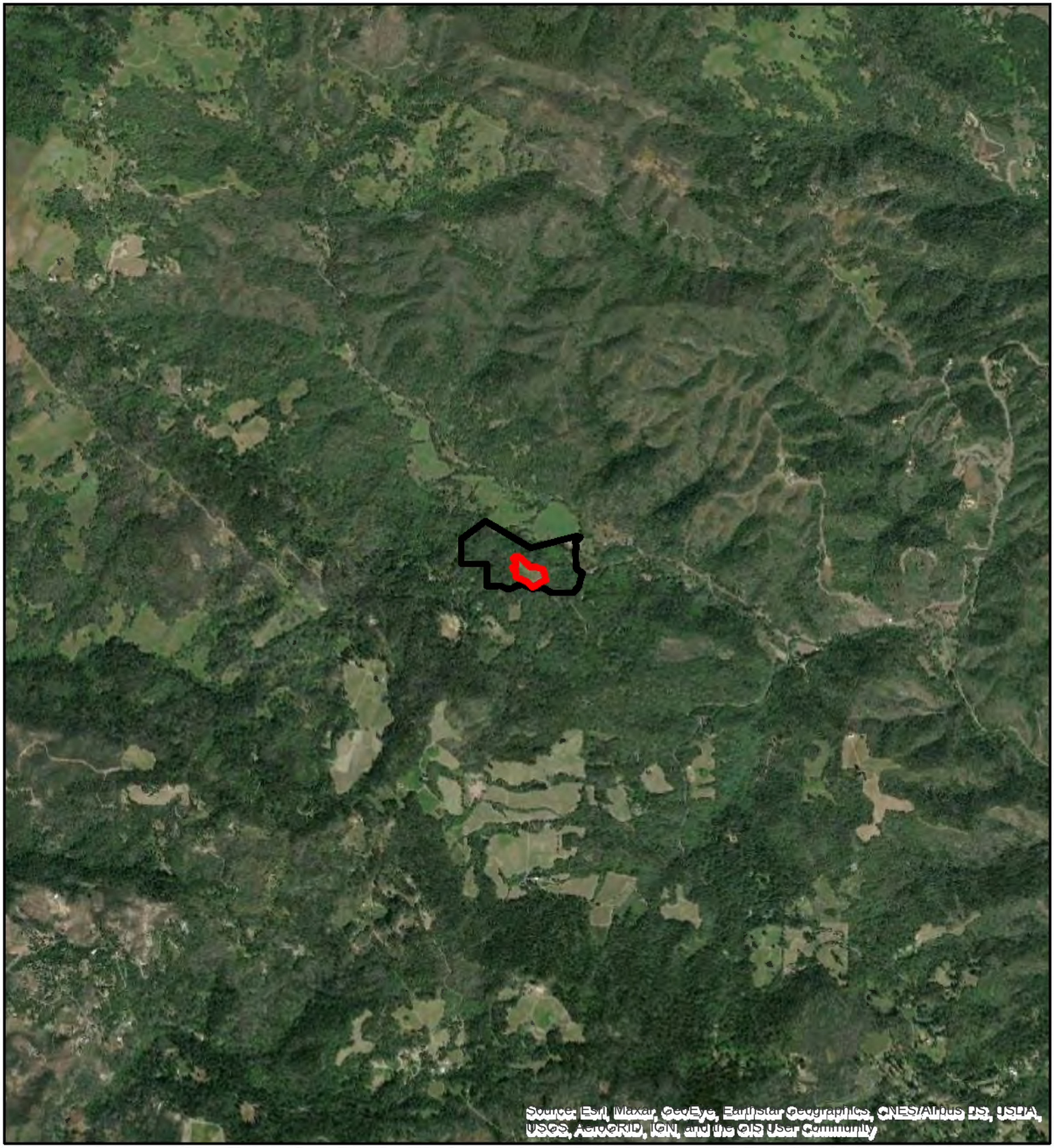
Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the U.S. Fish & Wildlife Service. February 2, 2011 and Revised January 9, 2012.

Northern Spotted Owl Viewer (BIOS CA Natural Diversity Database). Managed by California Department of Fish & Wildlife.

Zeiner, D.C., W.F. Laudenslayer, K.E. Mayer, and M. White, eds. 1988 – 1990. California's Wildlife. Vol. I – III. California Department of Fish & Game, Sacramento, CA.

Attachment #1

Basil Project Area



Legend

- Basil Property Line
- Basil Project Area

Project: Section 31 T07N, R05W MDB&M
Napa County

Date: 4/17/2022 1:40,000

N

Map Produced by: Forest Ecosystem Management, pllc

Data Version Date:
03/30/2022

Report Generation Date:
4/17/2022

Report #1 - Spotted Owl Sites Found

Known Spotted Owl sites having observations within the search area.

Meridian, Township, Range, Section (MTRS) searched:

M_07N_05W Sections(28,29,30,31,32,33);

M_07N_06W Sections(25,26,35,36);

M_06N_06W Sections(01,02,11,12);

M_06N_05W Sections(04,05,06,07,08,09);

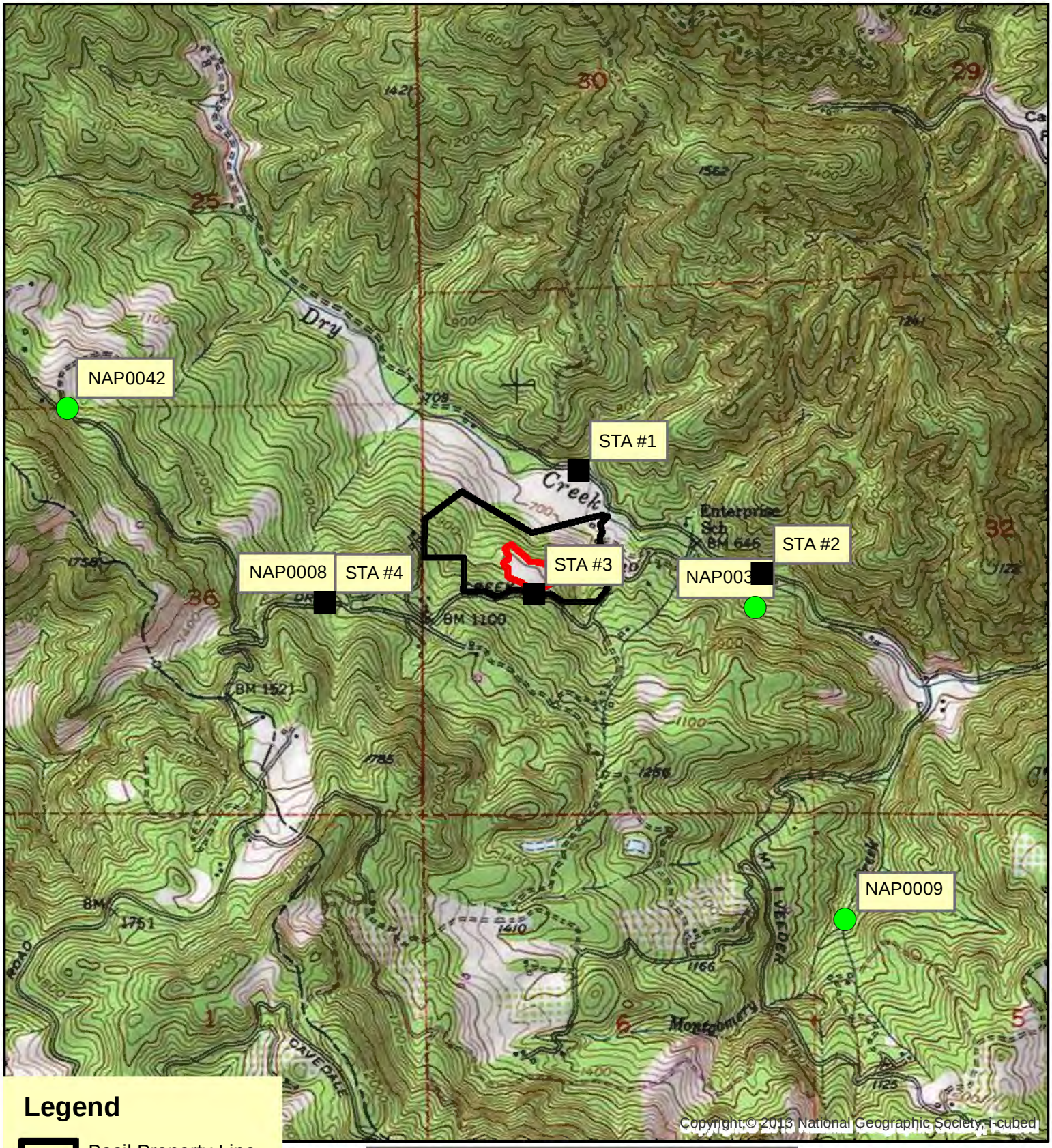
NOTES:

Basil

Masterowl	*Subspecies*	*LatDD NAD83*	*LonDD NAD83*	*MTRS*	*AC Coordinate Source*
NAP0004	NORTHERN	38.380662	-122.421447	M 06N 05W 09	Contributor
NAP0008	NORTHERN	38.408767	-122.468067	M 07N 06W 36	Contributor
NAP0009	NORTHERN	38.397579	-122.444580	M 06N 05W 05	Contributor
NAP0012	NORTHERN	38.424667	-122.433793	M 07N 05W 29	Contributor
NAP0015	NORTHERN	38.393189	-122.418256	M 06N 05W 04	Contributor
NAP0030	NORTHERN	38.414673	-122.417376	M 07N 05W 33	Contributor
NAP0031	NORTHERN	38.371590	-122.391900	M 06N 05W 15	Contributor
NAP0032	NORTHERN	38.385050	-122.448919	M 06N 05W 07	Contributor
NAP0034	NORTHERN	38.381433	-122.439017	M 06N 05W 08	Contributor
NAP0036	NORTHERN	38.408611	-122.448657	M 07N 05W 31	Contributor
NAP0042	NORTHERN	38.415649	-122.479700	M 07N 06W 36	Contributor
SON0026	NORTHERN	38.388499	-122.485832	M 06N 06W 02	Contributor

Attachment #3

Northern Spotted Owl Survey Stations - Basil Project Area



Legend

- Basil Property Line
- Basil Project Area
- NSO Station
- NSO Activity Center

Project: Section 31 T07N, R05W MDB&M
Napa County

Date: 4/17/2022 1:25,923

N

Map Produced by: Forest Ecosystem Management, pllc