Biological Resource Reconnaissance Survey



Report for: Schramsberg Winery
1400 Schramsberg Road; Calistoga, California
APN #'s: 020-390-007, 020-390-008, 020-390-011, 020-200-015 & 020-300-014
This report updates previous Botanical and Wildlife Biological Reports

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PREPARERS:

Pamela Town – Consulting Wildlife Biologist: Pam received a BS in Wildlife Management from University of Vermont in 1993 and a MS in Forest Resources from University of Idaho in 1996. Pam has over 20-years of experience using interdisciplinary approaches to natural resource and land use management projects in northern California (Mendocino, Sonoma, Lake, and Napa Counties). She has experience working with a diversity of nongame wildlife species and their habitat including, but not limited to: song birds, hawks, owls, turtles, amphibians, bats, small mammals, and listed species. She has worked with a variety of partners including state and federal regulatory agencies (CDFW, CalFire, USFWS), private and industrial landowners, small and large business owners, and natural resource professionals; to provide technical leadership and guidance in dealing with the effects of various land use projects on listed/sensitive wildlife species and their habitat.

Heather Morrison – Consulting Botanist and Forester: Heather received a B.S. in Forestry and Watershed Management from Humboldt State University in 1996. She is a Certified Consulting Botanist (CNPS) and a Registered Professional Forester (#2681) with over 20 years of professional forestry and environmental planning experience. Ms. Morrison provides Botanical Assessments for large and small projects requiring compliance with the California Environmental Quality Act (CEQA). Ms. Morrison's experience includes conducting state and federal protocol Special Status Plant Species Surveys since 2014 in the counties of Mendocino, Lake, Sonoma and Napa. She has experience with wetland delineations, as per the Army Corps of Engineers Technical Report (#Y-8701). She is a current member of the California Native Plant Society, the California Botanical Society and California Invasive Plant Council.

ASSESSMENT DEFINITIONS:

Biological Resources Evaluation Area (BREA): An area that includes all lands within 1-mile of the boundaries of the parcel involved, as well as the CalFire-defined drainage upstream and including the subject parcel.

Study Area: The area in which a field evaluation was performed. The Study Area was focused upon the Project Area, but did assess/examine the entire property ownership.

Project Area: The area of the proposed project (vineyard conversion) evaluated for potential direct impacts to sensitive biological resources. For the Schramsberg Project, the Project Area includes eight (8) separate vineyard blocks scattered throughout the property ownership.

I. EXECUTIVE SUMMARY

Biological Resource Studies and Assessments are conducted to determine the presence or absence of listed animal and plant species, and the effects of a proposed vineyard or orchard site development on those species.

The Project Area is located in the 229-acre ownership of Schramsberg Winery at 1400 Schramsberg Road; Calistoga, California (Map #1) and includes APN numbers 020-390-007, 020-390-008, 020-390-011, 020-200-015, and 020-300-014. The property ownership occurs within Sections 8, 9, 16, & 17 T08N, R06W MDB&M in Napa County.

This report updates the Botanical Resources Reconnaissance Survey Report of September 2019 (Eastside Environmental 2019) and the Wildlife Habitat Resources Report of December 2019 (Forest Ecosystem Management 2019). This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey (BRRS) for the conversion of 12.3 acres of the property into six (6) separate vineyard blocks, as well as including .87 acres of two (2) additional blocks that were established to vineyard in the late 1990s or early 2000s unpermitted (Project Area total is 13.17 acres)(Maps #2 & #3).

The Parcel contained 171.65 acres of forest canopy and 57.35 acres of non-forested areas (houses, winery, supporting structures, vineyards, roads, pond, and chaparral) for a total of 229 acres. The entire ownership is within the 2020 Glass Wildfire Perimeter with the vegetation impacted by the wildfire (Attachment #1). The biological surveys completed in 2019 were prior to the 2020 Glass wildfire. A CalFire approved Emergency Notification Exemption logging operation was completed in the fall/winter of 2021 to remove some of the dead and dying material within the ownership. Dead and dying material was primarily removed within proposed vineyard blocks, around structures, and access roads. A current years' (2022) botanical and wildlife habitat surveys were completed post wildfire and logging (stumps still present and slash in process of being cleaned up) with survey data presented in this report.

There are watercourses within the ownership including primarily ephemeral streams (Class III watercourses) that will only flow after storm events, portions of Schramsberg Creek that would include both Class III and Class II watercourses, and a pond (Map #7). The closest watercourse to the Project Area is the ephemeral stream (Class III) that flows between Blocks 5 and Block 6; in which a minimum set back of 75' will be placed. There is a different ephemeral stream (Class III) located over 50' from Block 1b; with a different ephemeral stream (Class III) located over 50' from Block 4 & 4b. Mitigation to reduce sediment transport downstream has been incorporated into this project and into the ECP. A Hydrological Study and Report will be completed to address concerns regarding distance to major creeks and Napa River.

A 2018 CDFW Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities rare plant survey identified 1 special status plant in 2022, Coast Range Triplet Lily, and no sensitive natural communities within the property ownership.

There are three special-status species (Northern Spotted Owl, California Red-Legged Frogs, Western Bumble Bee) with marginal habitat present within the Study Area; and 12 non-status species with baseline legal protections (Cooper's Hawk, Sharp-Shinned Hawk, Vaux's Swift, Olive-Sided Flycatcher,

Purple Martin, Pallid Bat, Ringtail, Townsend's Big-Eared Bat, Western Red Bat, Long-Eared Myotis (bat), California Giant Salamander, and Western Pond Turtle) that might be found residing on or immediately adjacent to the Study Area.

Mitigation measures, in the form of an additional site visits to detect breeding individuals and flagging of rare plants prior to earth moving activities, preservation of oak woodland to conform with Napa County General Plan Policy CON-24, Class III watercourse/riparian restoration, and removal of invasive plant species are outlined within the Project Recommendation Section; as well as best management practices throughout the permitting process have been developed and provided herein to avoid impacts to listed and sensitive species and their habitat.

II. INTRODUCTION

Throughout the spring and summer of 2022, an assessment of biological resources and several species-specific surveys were completed within the Schramsberg Study Area (Map #2 and #3) located at 1400 Schramsberg Road; Calistoga, California by Heather Morrison, Scott Butler (RPF), and Pamela Town. The 229-acre property ownership is a mixed plant community of redwood - Douglas-fir – California Bay Laurel forest, Douglas-fir forest, Douglas-fir – Ponderosa Pine forest, Coast Live Oak, vineyards, residential/commercial buildings, and access roads (Map #4); all of which was subjected to the 2020 Glass Wildfire. Immediately adjacent to the Study Area is vegetation types similar to the Study Area with the addition of mixed chaparral, interior mixed hardwood, and the heavily agricultural/urbanization of Napa Valley (Map #5). Bothe Napa Valley State Park is adjacent to the south and southeastern property boundary. Surveys were completed to gather the information necessary to update and complete a review of the biological resources under the California Environmental Quality Act (CEQA), to meet the guidelines outlined by Napa County in "Guidelines for Preparing Biological Resources Reconnaissance Surveys", and to analyze potential environmental effects of a vineyard development for a Napa County Erosion Control Plan (ECP) Application.

A Biological Resource Reconnaissance Report provides general information on the presence, or potential presence, of sensitive species and habitats. The site visits contain protocol-level surveys for listed plant species in the Project Area, protocol-level surveys for northern spotted owls, as well as survey visits to assess habitat, and record all identified plant and wildlife species observed or inferred (through animal sign). This report describes the results of the site visits, which assessed the Project and Study Area for:

- The presence of sensitive natural plant communities
- The potential for land cover types on the site to support special status plant and wildlife species.
- The presence of sensitive natural resources protected by local, state, or federal laws and regulations.

All plant and animal species, and habitat identified during the assessment were documented and their presence is discussed within this report. Impacts to the Project and Study Area due to the 2020 Glass wildfire and proceeding emergency logging operations are described. Specific findings on the habitat suitability or presence of special status species or sensitive habitats may require further protocol-level surveys or other studies to be conducted.

The proposed project involves the conversion of approximately 13.17 acres {12.2 acres forest canopy and 0.97 acres of non-forest canopy} of the property to vineyard. Associated with the installation of the grape vines will be vineyard avenues, irrigation lines, and deer fencing. Site preparation including removal of trees, ripping, installation of erosion control measures, seeding cover crop, and installation of irrigation pipelines could occur during the grading window of April 1 through October 15. By October 15, the site will be winterized with placement of straw wattles, seeding of vineyard avenues and planting areas, and straw mulch spread over disturbed areas as required by the ECP prepared for the Project.

III. REGULATORY SETTING

This report is intended to facilitate conformance of the Project with the standards outlined in the Napa County's "Guidelines for Preparing Biological Resources Reconnaissance Surveys" and support permitting for a County's Erosion Control Permit. The Project may also be subject to federal and state regulations designed to protect sensitive natural resources.

Land Cover Types: Sensitive Land Cover Types are those areas of a particular vegetation type, soil or bedrock formation, aquatic features and/or another distinct phenomenon. Typically Land Cover Types have identifiable boundaries that can be delineated based on changes in plant assemblages, soil or rock type, soil surface or near-surface hydroperiod, anthropogenic or natural disturbance, topography, or elevation. Many Land Cover Types are not considered sensitive or otherwise protected under the environmental regulations discussed in this report; however, these land cover types might provide essential ecological and biological functions for special status plants and wildlife. Those land cover types that are considered or protected under one or more environmental regulations are listed below.

Waters of the United States: Waters of the United States is regulated by the United States Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries. The Corps Wetlands Delineation Manual uses three criteria to delineate wetlands including the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State: Waters of the State is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a project does not require a federal permit, but does involve dredge of fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian: Streams and lakes, as habitat for wildlife and fisheries are subject to jurisdiction by California Department of Fish & Wildlife (CDFW) under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream" is defined in the California Code of Regulations (CCR) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation". The term "stream" can also include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-

dependent terrestrial wildlife. Riparian is defined as on or pertaining to the banks of the stream, with riparian vegetation as vegetation which occurs in and/or adjacent to a stream and is dependent on and occurs because of the stream itself. Removal of riparian vegetation requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Sensitive Natural Communities: Sensitive Natural Communities are those that are listed to the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) due to the rarity of the community in the state or throughout its entire range (globally). Currently the CNDDB uses Holland vegetation community names and has not added any new sensitive natural community records to the CNDDB since the 1990's, because the CDFW is switching to using A Manual of California Vegetation, 2nd Edition as the standard classification system for California. CDFW maintains a list of Sensitive Natural Communities, most recently dated August 18, 2021. This CDFW list was utilized to define the Natural Communities within the Survey Area. In addition to the CDFW list, these communities can also be identified in local or regional plans, policies, and regulations. Impacts to Sensitive Natural Communities must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chapter 3, Appendix G). In addition, Napa County has designated a number of communities as sensitive in their Napa County Baseline Data Report.

Special Status Species – Plants: Special status plants include taxa that have been listed as endangered or threatened, or are formal candidates for such listing under the Federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). The California Native Plant Protection Act (CNPPA) lists 64 rare or endangered plants and prevents take, with few exceptions of these species. California Native Plant Society (CNPS) Rare and Endangered Plant inventory with California Rare Plant Ranks of 1, 2, and 3 are also considered special status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale or are otherwise considered locally rare. In addition, any plant species listed as sensitive within a County General Plan are considered sensitive.

Special Status Species – Wildlife: Special status wildlife species include species that have been listed or are formal candidates for such under ESA or CESA. The Federal Bald and Golden Eagle Protection Act (BGEPA) provides broad protections to both of North America's eagle species that are similar to those under the ESA. The CFGC designates some species are Fully Protection (FP), which indicates that take of that species cannot be authorized through a state permit. Additionally, CDFW and CalFire Species of Special Concern (SSC) are given special consideration under CEQA and are therefore considered special-status species. In addition to regulations for special status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act (MBTA) of 1918 and CFGC. Under these laws/codes (sections 3503, 3503.5 and 3513), the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for bat species and those with a high or medium-high priority are typically given special consideration under CEQA. In addition, any animal species listed as sensitive within a County General Plan are considered sensitive.

Critical Habitat, Essential Fish Habitat, and Wildlife Corridors: Critical habitat is a term defined in the ESA as a specific and formally designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the United States Fish & Wildlife Service

(USFWS) to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species recovery.

The Magnuson-Stevens Fishery Conservation and Management Act provides for conservation and management of fishery resources in the US. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conversation, and facilitate long term protection through the establishment of Essential Fish Habitat (EFH). Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with National Marine Fisheries Service (NMFS).

Movement and migratory corridors for native wildlife, including aquatic corridors, as well as wildlife nursery sites are given special consideration under CEQA.

Napa County General Plan and County Codes: Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County 2008). The relevant policies from the General Plan pertaining to biological resources and wetlands which may be applicable to this Project are listed below.

Napa County Baseline Data Report: Specific sensitive Land Cover Types are identified in the Napa County Baseline Data Report (Napa County 2005). In addition to those Land Cover Types identified by California Department of Fish & Wildlife, the report also identifies biotic communities of limited distribution that encompass less than 500 acres of cover within the County and are considered by local biological experts to be worthy of conservation.

Natural Resource Goals & Policies:

- Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreational, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special status species to the extent feasible. Where impacts to wildlife and special status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:
    - Maintain the following essential for fish and wildlife resources
        - Sufficient dissolved oxygen in the water
        - Adequate amounts of proper food
        - Adequate amounts of feeding, escaping, and nesting habitat
        - Proper temperature through maintenance and enhancement of streamside vegetation, volume flows, and water velocity
    - Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special status species, and maintain the watersheds, especially stream-side areas, in good condition.
    - Provide protection for habitat supporting special status species through buffering or other means.

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

- Policy CON-17: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:
  - Prevent removal or disturbance of sensitive natural plant communities that contain special status plants or provide critical habitat to special status species.
  - In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
  - Promote protection from overgrazing and other destructive activities.
  - Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
  - Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

- Policy CON-18: To reduce impacts on habitat conservation and connectivity:
  - In sensitive domestic water supply drainages where new development is required to retain between 40 to 60 percent of the existing vegetation onsite (as of 16JUN93), the vegetation selected for retention should be in areas designated to maximize habitat value and connectivity.
  - Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
  - Preservation of habitat and connectivity of adequate size, quality and configuration to support special status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.

- The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
- The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after 16FEB07 to offset the impact caused by the new vineyard development.

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

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

  - Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agriculture projects.
  - Comply with the Oak Woodlands Preservation Act regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of the residential, commercial, and industrial approvals.
  - Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 (updated to 3:1) ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
  - Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil production be left standing.
  - Maintain, the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and Brewer oaks as well as blue, white, scrub and live oaks are common associations.

<u>General Provisions – Stream and Wetland Setbacks:</u> Napa County Code 18.108.025 requires stream setbacks for new land clearing for agricultural purposes. "Stream" is defined by Napa County (18.108.030) as:

- A watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey (USGS) maps most recently published, or any replacement to that symbol.

- Any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 and contains hydrophilic vegetation riparian vegetation or woody vegetation including tree species greater than 10' in height.
- Those watercourses listed in Resolution No. 94-19.

No clearing of land for new agricultural uses as defined by Section 18.08.040 shall take place within the following setbacks from streams:

- < 1% slope = 35' Required Setback
- 1 – 5% slopes = 45' Required Setback
- 5 – 15% slopes = 55' Required Setback
- 15 – 30% slopes = 65' Required Setback
- 30 – 40% slopes = 85' Required Setback
- 40 – 50% slopes = 105' Required Setback
- 50 – 60% slopes = 125' Required Setback
- 60 – 70% slopes = 150' Required Setback
- Ephemeral/Intermittent Streams = 35' Required Setback

Vegetation Preservation and Replacement: Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5%).

Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the County's environmental sensitivity maps.

Existing trees 6" in diameter or larger, measured at diameter breast height (dbh), or tree stands of trees 6" dbh or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.

Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriate methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities. Where removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality and quantity.

Water Quality and Tree Protection Ordinance: In 2019, the Napa County Board of Supervisors adopted the Water Quality and Tree Protection Ordinance modifying Chapter 18.108 Conservation Regulations to provide additional protections to trees and water quality. Additions to the Code includes:

- Code Section 18.108.025 is the requirement of a 35' setback for ephemeral or intermittent streams not meeting Napa County's criteria for a stream.
- Code Section 18.108.026 is the requirement of a 50' setback from the delineated edge of wetland boundaries.

- Code Section 18.108.027 is the requirement of tree retention in sensitive domestic water supply drainages was increased from 60% to 70% retention based on vegetation that existed within the parcel in 1993.
- Code Section 18.108.020 subsections C and D were added and require a minimum of 70% retention of canopy cover based on the vegetation that existed within the parcel in 2016, and the preservation or mitigation of trees at a minimum 3:1 ratio.

IV. PROJECT DESCRIPTION OVERVIEW

Project Location: 1400 Schramsberg Road; Calistoga, CA (Map #1)

County: Napa
Legal Description: Portions of Sections 8, 9, 16 & 17 T08N R06W MDB&M
Parcel #: APN 020-390-007, 020-390-008, 020-390-011, 020-200-015, 020-300-014

General Project: The project proposes to convert a total of 13.17 acres of the property ownership into eight (8) vineyard blocks scattered throughout the ownership (Map #2 and #3). Of the 13.17 acres, 12.2 acres are woodland or forest, and 0.97 acres are non-forested vegetation (pre-Glass wildfire). The following describes each block:

- Block 1 (4.2 acres): This block is located along the edge of an existing vineyard. Prior to the Glass wildfire, the site had a mature overstory tree canopy cover of 80 to 90%, with a sparse shrub layer. Overstory trees included Douglas-fir, tanoak, black oak, live oak, and madrone. There were a few Douglas-fir and black oak trees that measured over 38" dbh. The area was impacted by the 2020 Glass Wildfire, with the CalFire Emergency Notice removing all the dead and dying trees. During the 2022 site visits, there are very few trees left alive within this block.
- Block 1b (.48 acres): This block is located along the edge of an existing vineyard. This block was unpermitted when established sometime between 1993 and 2003 (Google Earth shows 1993 open-fallow ground and vines in place in 2003 – there is no available photos for the time period in between). This site has been cultivated in grapes going back potentially 29 years.
- Block 2 (.4 acres): This block is located along the eastern property boundary near an existing vineyard, and has houses close by. Prior to the Glass wildfire the site had a mature overstory tree canopy cover of 80 – 90% with a sparse shrub layer. Overstory trees included mature madrone, Douglas-fir, black oak, and live oak. At the time, diameters at breast for Douglas-fir were 8 – 20" dbh and oaks about 18" dbh. The area was impacted by the Glass Wildfire, with the CalFire Emergency Notice removing the dead and dying trees. During the 2022 site visits, there are no trees standing within this block with some slash piles that were being burned.
- Block 3 (1.3 acres): This block is located along the eastern property boundary on the south end of an existing vineyard. Prior to the Glass wildfire, the site was similar to pre-wildfire Block 2, but due to less overstory tree canopy cover, the shrub layer was denser and consisted of manzanita, ceanothus, and poison oak. The area was impacted by the Glass wildfire, with the CalFire Emergency Notice removing the dead and dying trees. During the 2022 site visits, there are no trees standing within this block with some slash piles that required burning.
- Block 4 (.54 acres): This block is located along the eastern property boundary and to the east of an existing vineyard. Prior to the Glass wildfire, the site contained primarily manzanita, chamise and madrone with some scattered oaks and Douglas-fir. The area was impacted by the Glass wildfire, with the CalFire Emergency Notice removing the dead and dying trees.
- Block 4b (.39 acres): This block is located along the edge of an existing vineyard. This block was unpermitted when established in late 2003 according to Google Earth imagery. Prior to 2003, the site had a few trees and shrubs on the northern end and was open on the southern end. This site has been cultivated in grapes for almost 20 years.
- Block 5 (3.96 acres): This block is located along the western edge of an existing vineyard. Prior to the Glass wildfire the site had a mature overstory canopy cover of 80 to 90%, with a

sparse shrub layer. Overstory trees included Douglas-fir, tanoak, madrone, black oak, redwood and live oak. The area was impacted by the Glass Wildfire, with the CalFire Emergency Notice removing all the dead and dying trees. During the 2022 site visits, there are no trees left standing within this block. Immediately to the west of this block is a Class III watercourse with proposed Block 6 to the west of the watercourse. Fire killed dead trees were left standing within the watercourse (Attachment #1).

- Block 6 (1.9 acres): This block is located just west of proposed Block 5. Prior to the Glass wildfire the site had a mature overstory canopy cover of 80 to 90%, with a sparse shrub layer. Overstory trees included redwood, Douglas-fir, tanoak, madrone, black oak, and live oak. The area was impacted by the Glass Wildfire, with the CalFire Emergency Notice removing all the dead and dying trees. During the 2022 site visits, there are no trees left standing within this block.

The Study Area focused on the Project Area (Maps #2 & #3), with the entire property ownership assessed. The ownership consists of Douglas-fir Forest Alliance, Douglas-fir – Redwood – California Bay Laurel Alliance, Douglas-fir – Ponderosa Pine Forest Alliance, Coastal Live Oak Alliance, Agricultural, and Urban (Map #4).

The Biological Resource Assessment Area includes all lands within 1 mile of the boundaries of the parcel involved as well as the CalFire defined drainage upstream and including the subject parcel utilizing a standard community classification scheme for identifying natural communities from species data (Map #5). Using the Calwater22 GIS dataset, a California Watershed Mapping layer that encompasses Napa County, the Project Area occurs within the Ritchie Creek Watershed (Calwater 2206.500203), which is part of the larger Napa River Watershed. The Biological Resource Assessment Area for this Project includes the Ritchie Creek watershed and a small portion to the southeast and west of the property ownership (an area outside the Ritchie Creek watershed but within 1 mile of the Property Boundary). The watershed used for this report is larger than the County GIS layer and the ECP narrative. Using a larger watershed for the Biological Report increased the size of the area scoped for listed plant and animal species. As animals move more freely than plants, the scoping area was further expanded to include 5-miles outside the Study Area.

V. ENVIRONMENTAL SETTING

The 13.17-acre Project Area (Maps #2 & #3) is located at 1400 Schramsberg Road; Calistoga, California in Napa County.

Topography and Soils: The overall topography of the Property Ownership is relatively flat to over 50% slopes, ranging from approximately 360 to 1,100 feet above sea level. According to the Soil Survey (USDA 2022), the Property Ownership is underlain by three (3) soil mapping units: Forward Silt Loam (5 – 39% slopes), Forward Silt Loam (12 – 57% slopes), and Kidd Loam (30 – 75% slopes) (Attachment #8).

Forward Silt Loam: The parent material is rhyolitic residuum weathered from volcanic rock. The drainage class is well drained with a high runoff class. The depth to the water table is more than 80 inches. This is listed as not prime farmland.

Kidd Loam: The parent material is residuum weathered from rhyolite. The drainage class is well drained with a medium runoff class. The depth to the water table is more than 80 inches. This is listed as not prime farmland.

Climate and Hydrology: The local watershed is characteristically Mediterranean with cool to warm, dry summers and cool, moist winters. The average annual high temperature for Saint Helena was listed at 99 degrees Fahrenheit, however, 2021 drought conditions and "heat domes" found high temperatures around 107 degrees Fahrenheit, with multiple days exceeding 100 degrees Fahrenheit (Weather and Climate 2021). The average minimum monthly low temperature is 35 degrees Fahrenheit. Precipitation falls as rain with an annual average of 36.64 inches. Precipitation-bearing weather systems are usually from the west and south with the majority of the rainfall between November and March (US Climate Data).

There are several existing watercourses within the Property Ownership. There are three Class III watercourses adjacent to proposed vineyard blocks. Two of these watercourses flow into Schramsberg Creek, a tributary to the Napa River. These occur over 50' away from Block 1b and over 50' away from Blocks 4/4b. One watercourse occurs between Blocks 5 and 6 with a 75' setback proposed; it flows into Nash Creek, a tributary to the Napa River. These are all depicted in Map #7.

The Napa River, Nash Creek, Ritchie Creek, and numerous unnamed tributaries to these creeks occur within the Biological Resources Evaluation Area.

Land Cover and Land Use:

The landscape within the BREA consists of a mosaic of different habitat types including conifers, (Douglas-fir, Redwood, and Knobcone Pine), hardwoods (Black Oak, Blue Oak, California Bay, Coast Live Oak, mixed oak woodland, Oregon White Oak, Valley Oak, and White Alder), shrub (Chamise, manzanita), annual grassland/forbs, urban, agricultural (mostly vineyard), rocky outcrop, and water (Map #5). The Property Ownership is close to the highly agriculturally developed Napa Valley area (Map #1).

In September 2020, the Glass Wildfire swept through portions of the Napa Valley Watershed, with a portion of this landscape within the wildfire perimeter. The landscape is now a mosaic of severely burned areas to patches of unscathed areas.

The Property's vineyards date back to a 19th century German immigrant, Jacob Schram, who made his home there and started a winery. In 1965, Jack and Jamie Davies purchased the run-down vineyard/winery and it has been in the family since; with numerous upgrades being completed. Ownership is a mix of conifer forests (Douglas-fir forest, Douglas-fir – Redwood – California Bay Laurel forest, and Douglas-fir – Ponderosa Pine), hardwood forests (Coast Live Oak), agricultural areas (vineyards, pond), and structures (commercial and residential buildings, sheds, roads). The Glass Wildfire affected the entire Property Ownership to varying degrees of severity, with some areas having only surface burns and unburned areas to other areas having complete combustion of vegetation.

VI. ASSESSMENT METHODOLOGY

Prior to surveys, the following literature and database searches were completed to assess the potential for sensitive natural communities and special-status species*:*

Soil Survey
Aerial photographs (Google Earth & GIS Datasets)
National Wetlands Inventory
California Aquatic Resources Inventory
California Natural Diversity Database, CNDDB
California Natural Diversity Database, Special Animal List
California Wildlife Habitat Relationships System
California Native Plant Society Electronic Inventory
Consortium of California Herbaria
A Manual of California Vegetation Online
Preliminary Descriptions of the Terrestrial Natural Communities
Napa County Checklist of Common Birds of Napa County (Napa-Solano Audubon)
Napa County Land Cover (NCLC) map
Napa County Vegetation Map
California Natural Community List
California Department of Fish and Game, California Sensitive Natural Communities List
USFWS List of Federal Endangered and Threatened Species
Spotted Owl Database
USFWS Information for Planning and Consultation (Ipac)
NMFS – Essential Fish Habitat Mapper

With the exception of the NSO Database which focused on a 1.3-mile assessment area surrounding the Project Area per USFWS requirements for take avoidance, database searches (i.e., CNDDB, CNPS) focused on the Biological Resources Evaluation Area (BREA), and extended out 5 miles from the ownership boundary for wildlife species.

Following the remote assessment, Pamela Town, Consulting Wildlife Biologist and Heather Morrison, Consulting Botanist & Forester traversed the Project Area on foot to:

- Determine land cover type (terrestrial community, aquatic resources)
- Document existing conditions and determine if suitable habitat exists for any special status plant or wildlife species
- Determine if and what type of aquatic natural communities (wetlands) are present
- Determine if special status species are present
- Perform seasonally appropriate floristic surveys
- Coordinate and complete northern spotted owl surveys (USFWS 2012/2019)
- Determine if additional special status species surveys are required

VI – 1: Land Cover Types: Terrestrial land cover types were mapped across the Study Area (with ground truthing completed primarily within the Project Area) and evaluated to determine if such areas have the potential to support special status plant or wildlife species. In most instances, communities are delineated based upon distinct shifts in plant assemblage (vegetation), and follow the California Natural

Community List (CDFW 2018). Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986), and A Manual of California Vegetation, Online Edition (CNPS 2022). In some cases, it might be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature.

Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 [globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3)], were evaluated as sensitive as part of this report. Additionally, any sensitive natural communities as described in the Napa County Baseline Data Report or General Plan were considered. The potential for each sensitive natural community to occur in the Survey Area was ranked based on the following criteria:

- None. No geologic, hydrologic or meteorological components meeting the communities' requirements are present (such as serpentine rock, a stream or summer fog).
- Unlikely. Few to none of the geologic, hydrologic or meteorological requirements are present. The natural community is not likely to be found on the site.
- Moderate. Some of the habitat geologic, hydrologic or meteorological requirements are present. The natural community has a moderate probability of being found on the site.
- High. All of the geologic, hydrologic or meteorological components are present. The natural community has a high probability of being found on the site.
- Present. The natural community is observed on the site or has been recorded (database observation) on the site in the recent past.

VI-2: Aquatic Resources: Aquatic resources include Waters of the US; Waters of the State; and Streams, Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, and CFGC.

This site assessment does not constitute a formal wetland delineation; however, the surveys looked for superficial indicators of wetlands such as hydrophytic vegetation (plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales.

If potentially jurisdictional waters under the CWA and/or the CFGC are noted on site, they are delineated using a mix of surveyed topography data and high-resolution aerial photographs. The ordinary high-water mark would be used to determine the extent of the potential Section 404 jurisdiction, while the top-of-bank would be used to determine the extent of CFGC Section 1602 and 401. Streams with associated woody vegetation would be assessed to determine if these areas are considered riparian habitats by CDFW following "A Field Guide to Lake and Streambed Alteration Agreements", Section 1600-1607, (CDFG Code 1994).

VI-3: Special Status Species – Plants: Site visits evaluated the potential presence of suitable habitat for special status plant species as well as identification of specific species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the surveyors. The potential for each special status species to occur in the Survey Area was ranked based on the following criteria:

- None. No habitat components meeting the species requirements are present (such as coastal marsh or coastal dunes).

- Unlikely. Few to none of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (database observation) on the site in the recent past.

If a more thorough assessment was warranted, focused surveys were conducted within the Project Area. The surveys correspond to the period sufficient to observe and identify those special status plants determined to have the potential to occur. The field surveys were performed in accordance with those outlined by Napa County (2016), which follow those described by resource experts and agencies (CNPS 2021, CDFW 2018). Plants were identified using The Jepson Manual, 2nd Edition (Baldwin et. Al 2012) and Jepson Flora Project (Jepson eFlora 2019) to the taxonomic level necessary to determine whether or not they are sensitive plants. To the extent feasible, nearby accessible reference populations of target plant species with a moderate or high potential to occur in the project area were visited to ensure that the surveying botanist had an accurate search image for a species, and/or to determine whether the species was blooming at the expected time. Reference site visits were limited to species that were known to occur in local sites documented in the CNDDB.

- Napa lomatium (*Lomatium repostum).* Non-blooming plants were observed in the Calistoga area in June and July 2022. This species is readily distinguishable vegetatively from other members of the *Lomatium* genus due to its characteristic serrated leaves.
- White-flowered rein orchid (*Piperia candida*). Members of this genus have indistinguishable leaves and to identify to a species-level, plants must have flowers. None were blooming.
- Narrow-anthered brodiaea (*Brodiaea leptandra*). Blooming plants were viewed in the Calistoga area in June and July 2022.
- Napa false-indigo (*Amorpha californica var. napensis*). Viewed in May, June and July 2022 in the Calistoga area. This plant is readily distinguishable in the field outside of the bloom window.
- Calistoga ceanothus (*Ceanothus divergens*), Rincon Ridge ceanothus (*Ceanothus confusus*), Holly-leaved ceanothus (*Ceanothus purpureus*) and Sonoma ceanothus (*Ceanothus sonomensis*). Non-blooming plants of Calistoga ceanothus were observed in the Calistoga area in March, April, May and June 2022. This species along with rare Holly-leaved, Sonoma and Rincon Ridge ceanothus species, have characteristic sharply serrated leaves. Additionally, these plants are generally prostrate to low-mounding to arching and are more easily recognized vegetatively than when in bloom.
- Cobb Mountain lupine (*Lupinus serricatus*). Non-blooming plants were viewed in the Calistoga area in July 2022. This lupine is readily distinguishable from other lupines from its characteristic foliage which has spoon shaped leaflets with revolute margins.

VI-4: Special Status Species – Wildlife: Site visit evaluated the presence of suitable habitat for special status wildlife species as well as observation of specific species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the surveyors. The

potential for each special status species to occur within the property boundary was ranked based on the following criteria:

- None. Habitat is clearly unsuitable for the species requirements
- Unlikely. Few if any of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (database observation) on the site in the recent past.

If a more thorough assessment was warranted, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. Methods for the assessments are described below. If a special status species was observed at any time, its presence was recorded and is discussed within this report.

The wildlife assessment consisted of traversing the entire Project Area, and portions of property ownership. Habitat elements required or associated with specific species or species groups were searched for and noted. Such habitat elements include, but are not limited to:

- Plant Composition (shrubs, grasslands, oaks, conifers, etc.)
- Vegetative Structure (trees, shrubs, ground cover)
- Aquatic or Riparian Structures (standing water availability, riparian vegetation, etc.)
- Topography and Elevation
- Special Features (rock outcrops, downed logs, cliffs, caves, overhangs, etc.)
- Existing Disturbance Issues (roads, houses, power lines, etc.)
- Potential Nesting/Roosting Structures (snags, cavity trees, mistletoe, stick structures, etc.)

Northern spotted owl surveys were conducted following Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owls (USFWS 2012).

To account for potential impacts to wildlife movement and migratory corridors, maps from the California Essential Connectivity Project (Caltrans 2010), habitat connectivity data available through the CDFW BIOS (CDFW 2022), and aerial imagery (Google Earth 2021) within the Biological Resource Assessment Area was referenced. This map review assessment was refined based upon observations of the on-site physical and/or biological conditions.

VII. ASSESSMENT RESULTS

Because the Property Ownership is large (229 acres), the Project Area was surveyed at a high intensity level, with the Property Ownership surveyed at a lower intensity. A map of the survey routes can be found in Map #6, with a list of survey dates within Table 1.

VII-1: Table 1: Survey Dates for Schramsberg

Date	Survey Hours	Surveyor(s)	Primary Survey Completed
05MAR18	2 hours	S. Butler	Northern Spotted Owl
18MAR18	2 ½ hours	S. Butler	Northern Spotted Owl
01APR18	2 hours	S. Butler	Northern Spotted Owl
17APR18	2 hours	S. Butler	Northern Spotted Owl
07MAY18	2 hours	S. Butler	Northern Spotted Owl
15MAY18	2 hours	S. Butler	Northern Spotted Owl
04APR19	2.0 hours	H. Morrison/S. Butler	Northern Spotted Owl
15MAR19	2 hours	H. Morrison	Northern Spotted Owl
01APR19	2 hours	S. Butler	Northern Spotted Owl
21APR19	2 hours	S. Butler	Northern Spotted Owl
16MAY19	2 hours	S. Butler	Northern Spotted Owl
03JUN19	3 hours	P. Town	Northern Spotted Owl
01MAR20	2 hours	S. Butler	Northern Spotted Owl
16MAR20	2 hours	S. Butler	Northern Spotted Owl
08APR20	2 1/2 hours	S. Butler	Northern Spotted Owl
17MAR21	2 hours	S. Butler	Northern Spotted Owl
30MAR21	2 ½ hours	H. Morrison	Northern Spotted Owl
15APR21	1 ½ hour	H. Morrison	Northern Spotted Owl
17MAR22	1.5 hours	S. Butler	Northern Spotted Owl
04APR22	6 hours	H. Morrison	Northern Spotted Owl and Botanical
11APR22	2 hours	H. Morrison	Botanical
15APR22	2.5 hours	H. Morrison	Botanical
16APR22	1.5 hours	S. Butler	Northern Spotted Owl
18APR22	5 hours	P. Town	Wildlife/Habitat Evaluation
06MAY22	1.5 hours	S. Butler	Northern Spotted Owl
15MAY22	1.5 hours	S. Butler	Northern Spotted Owl
04JUN22	1.5 hours	S. Butler	Northern Spotted Owl
21JUN22	2 hours	H. Morrison	Botanical
12JUN22	3.5 hours	H. Morrison	Botanical

Attachment #2 includes a tabled summary of the special status plant species that were documented within the initial review that could have the potential of occurring within the Project Area, Study Area, and Biological Resources Assessment Area (BRAA). This summary discusses whether the special status species or their habitat was identified within the Study Area and includes the "ranking" of whether the species was likely to occur. All plant species identified within the Project Area were recorded and are summarized in Attachment #3.

Attachment #4 includes a tabled summary of the special status wildlife species that were documented within the initial review that could have the potential of occurring within the Project Area, Study Area, and Biological Resources Assessment Area (BRAA). This summary discusses whether the special status species or their habitat was identified within the Study Area and includes the "ranking" of whether the species or their habitat was likely to occur. All animal species identified within the Study Area were recorded and are summarized in Attachment #5.

Attachment #6 includes a tabled summary of sensitive natural communities and the likelihood of occurring within the Project Site.

VII-2: Glass Wildfire: In the early fall of 2020, the Glass Wildfire occurred within Napa Valley and engulfed portions of Napa and Sonoma Counties, including the Schramsberg Property Ownership (Map #3). There are portions within the ownership where all vegetation (trees, shrubs, and ground cover) burned and other areas where the overstory trees survived; photographs are included within Attachment #1. The soil was gray in some areas and there were a few spots where the fire was in the roots and burned holes in the ground. In 2022, there is good new grass growth in many areas and hardwoods (oaks and maples) were stump sprouting. Many of the redwoods that burned, including the removal of all the needles, were now sprouting throughout epicormic growth. During the fall/winter of 2022, a CalFire Notice of Emergency Timber Operations was completed to remove the dead/dying trees within the Project Area, around structures, and road systems.

VII-3: Existing Disturbance Issues: On occasions when this biologist and botanist were on-site, people could be seen and heard working on fire clean up (heavy equipment, prescribed burns), working within existing vineyards, traveling to and from the winery and vineyards, or at their residential houses.

VII-4: Land Cover Types: The Napa County Vegetation Map Layer version 5.1 was utilized to create a vegetation map for the Biological Resource Evaluation Area (BREA)(Map #5), the parcel, and the survey area (Map #4). This map layer was created by combining on the ground field data collection with modern semi-automated mapping techniques. The semi-automated approach uses machine learning algorithms to automate the mundane and laborious parts of vegetation mapping, such as delineating stand boundaries and labeling obvious features, saving valuable expert labor for the more subtle and difficult components of mapping. Within the project area, vegetation was thoroughly detailed and updated by ground truthing at an appropriate scale (Table #2), and in some portions of the area, were different than the Napa County Vegetation Map layer. This is likely due to the fact that not every area was thoroughly ground verified after lidar and aerial imagery interpretation and is based upon the state of the landscape in 2013.

Sensitive Natural Communities: Attachment #6 lists those Sensitive Natural Communities that have the potential to occur within the Project Area. Out of the nineteen (19) Sensitive Natural Communities included in the scoping list, six (6) were determined to have high potential to exist within the Study Area or the Biological Research and Evaluation Area. Project planning excluded Sensitive Natural Communities from the Project Area.

The following non-sensitive Natural Communities were found within the Project Area prior to the 2020 Glass wildfire:

- ***Quercus agrifolia* Forest Alliance (Coast Live Oak) – G5, S4 -** Coast Live Oak is dominant or co-dominant in the upland tree canopy with Pacific Madrone (*Arbutus menziesii),* Blue Oak (*Quercus douglasii),* Black Oak (*Quercus kelloggii),* Valley Oak (*Quercus lobata)* and California Bay Laurel (*Umbellularia californica)*. Trees are generally less than 30 meters tall and the canopy is open (>10%) to continuous, or savanna-like (<10%, but evenly distributed). Shrubs are sparse to intermittent and the herbaceous layer is sparse or grassy. Within the survey area, this Alliance was dominated by Coast Live Oak with listed co-dominants as well as Ghost/Gray Pine (*Pinus sabiniana)*. This Alliance was heavily burned in the 2020 Glass Fire.

- ***Pseudotsuga menziesii* Forest Alliance (Douglas-fir) – G5, S4 -** Douglas-fir is the dominant tree, with the potential for other overstory trees of Redwood (*Sequoia sempervirens*), Tanoak (*Notholithocarpus densiflorus*), Pacific Madrone (*Arbutus menziesii*), and California Bay Laurel (*Umbellularia californica*). Douglas-fir Forests occur in the Coast Range, Klamath Range, Cascade Range, and Sierra Nevada from Del Norte County to Santa Barbara County (CNPS 2021). These forests are typically situated in all topographic positions and aspects, underlain by a variety of substrates including serpentine and volcanics. This Alliance was heavily burned in the 2020 Glass Fire.

- **Agricultural –** Existing vineyards or open areas along vines for maintenance and access to grapes.

VII-5: Table #2. Vegetation Classifications for Schramsberg Ownership Pre-Wildfire

	Douglas-fir	**Coast Live Oak**	**Douglas-fir Ponderosa Pine**	**Redwood Douglas-fir CA Laurel**	**Agricultural**	**Ruderal (Urban)**
Block 1	4.2	0	0	0	0	0
Block 1B	0	0	0	0	.48	0
Block 2	.4	0	0	0	0	0
Block 3	0	1.34	0	0	0	0
Block 4	0	.4	0	0	.1	0
Block 4B	0	0	0	0	.39	0
Block 5	3.96	0	0	0	0	0
Block 6	1.9	0	0	0	0	0
Project Area	10.46	1.74	0	0	0.97	0
Outside Project Area	112.26	21.99	10.2	15.0	51.53	4.85
TOTAL ACRES	122.72	23.73	10.2	15.0	52.5	4.85

This report uses the vegetation type classified by Salix Natural Resource Management, Inc., which is based upon field ground truthing within the Project Area.

VII-6: Aquatic Resources: During the field surveys, an assessment of potential aquatic resources was conducted. There are several watercourses located throughout the ownership, including Schramsberg Creek a tributary to the Napa River (Map #7). The following further describes the watercourses close to the Project Area:

- Watercourse between Blocks 5 and 6: Within the Property Ownership, this watercourse begins near the southwestern boundary, goes between Blocks 5 and 6 where it crosses under a rocked vineyard access road, and splits just above the 2nd road crossing. After the split, the watercourse occurs along the edge of an existing vineyard (and road). The "channel" headed east, quickly dissipates. The "channel" headed west, eventually flows into the upper reaches of Nash Creek. This stream will only possess water during and immediately after a rain event. This area burned during the 2020 Glass Wildfire with the proposed vineyard blocks on either side logged during the CalFire Emergency Notice to remove dead and dying trees. There are only a few live redwood overstory trees left. The redwood trees did burn and now show epicormic growth along the tree trunk due to the stress of losing all their needles during the wildfire. The Douglas-fir is dead and does not have the ability to regenerate. Currently there is no live overstory canopy cover for this watercourse due to the wildfire.



- Watercourse near Block 1b: This ephemeral watercourse originates near existing vineyard Block 1b and is located approximately 50 feet away from the block and 20 feet away from the vineyard avenue. It becomes a Class 2 watercourse about 200 feet downstream of its origin and flows into Schramsberg Creek.
- Watercourse adjacent to Blocks 4 and 4b: The headwaters of this small ephemeral stream begins over 50' away from proposed Block 4. It flows northwest into Schramsberg Creek and becomes a Class 2 near its confluence. The Special Status plant coast range triplet lily (*Triteleia lugens*) is found growing up this drainage to its headwaters.



Watercourse headwaters near proposed Block 1.

VII-7: Special Status Species - Plants: Based upon a review of the resource databases (Attachment #2), there are twenty-eight (28) special status plant species which have a high potential to occur within the Biological Resources Evaluation area, with ten (10) of these species being documented in the Biological Resources Evaluation Area. The 10 plant species with a high potential to occur within the Study Area include:

- Napa false-indigo
- Holly-leaved ceanothus
- Narrow-anthered brodiaea
- Calistoga ceanothus
- Jepson's leptosiphon
- Napa lomatium
- Cobb Mountain lupine
- Green monardella
- Redwood lily
- Coast Range Triplet Lily

The following discusses these target species in greater detail.

VII-7a: Napa false-indigo (*Amorpha californica var. napensis*)

This deciduous shrub in the pea family (Fabaceae) grows 2-6 ft. tall and is found along woodland edges and chaparral. It is endemic to the Sonoma and Napa County region. Intricate flowers are closely set on slender spikes and are made up of a tiny intense indigo-purple petal with protruding bright orange stamens. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. The nearest documented population is located over 1,500 feet from the Study Area. Napa false-indigo was not identified within the Study Area.

VII-7b: Holly-leaved ceanothus (*Ceanothus purpureus*)

Holly-leaved ceanothus is an evergreen shrub in the buckthorn family (Rhamnaceae) that blooms from February to April but is typically identifiable by vegetative structures throughout the year. It typically occurs on rocky slopes underlain by volcanic substrate in chaparral and cismontane woodland habitat at elevations ranging from 390 to 2080 feet and ranges along the Mayacamas Range in Sonoma and Napa counties. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. The closest documented population is 3.4 miles from the Study Area. Holly-leaved ceanothus was not identified within the Study Area.

VII-7c: Narrow-anthered brodiaea (*Brodiaea leptandra*)

This perennial bulbiferous herb is restricted to lava and serpentine slopes where it grows in open mixed-evergreen forest or chaparral at 361 to 3002 feet in elevation within Napa, Lake, and Sonoma counties. This plant produces a solitary flower that blooms from May to July where it normally grows in mixed deciduous forest and light woodlands. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. Populations of narrow-anthered brodiaea have been documented within Bothe-Napa State Park just south and east of the Study Area. Narrow-anthered brodiaea was not identified within the Study Area.

VII-7d: Calistoga ceanothus (*Ceanothus divergens*)

Calistoga ceanothus is an evergreen shrub in the buckthorn family (Rhamnaceae). It is found between 350 to 3,120 feet in elevation and populations are confined to a small area in the hills surrounding Calistoga in Napa County. The plant's preferred habitat is on shrub-covered, rocky, volcanic slopes. The blue or purple flowers bloom in April and May. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. The nearest documented population of Calistoga ceanothus is located .7 miles from the Study Area. Calistoga ceanothus was not identified within the Study Area.

VII-7e: Jepson's leptosiphon (*Leptosiphon jepsonii*)

Jepson's leptosiphon is a spring annual in the phlox family (Polemoniaceae). It is found between 119 to 3,301 feet in elevation, predominantly in Napa county, and into neighboring counties. The plant's preferred habitat is valley and foothill grassland. The tiny white flowers bloom March through May. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. The nearest documented population of Jepson's leptosiphon is 6.1 miles from the Study Area. Jepson's leptosiphon was not identified within the Study Area.

VII-7f: Napa lomatium (*Lomatium repostum*)

This perennial member of the carrot family (Apiaceae) is commonly found on brushy and forested areas on all substrates from 600 to 3,300 feet. It can be found growing in both sun and partial shade. It's greenish-yellow inconspicuous flowers bloom April through May. It is endemic to California with populations centered in Napa as well as into bordering counties of Lake, Sonoma and Solano. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. The nearest documented populations of Napa lomatium are .8 miles from the Study Area. Napa lomatium was not identified within the Study Area.

VII-7g: Cobb Mountain lupine (*Lupinus sericatus*)

This perennial member of the pea family (Fabaceae) is endemic to the Lake, Napa and Sonoma County region. Like other lupines, it has a whorl of leaves and are quite distinct from other lupines with spoon-shaped, revolute-margined leaves. It prefers soils that are gravelly or thin, and generally is found on soils of volcanic origin. It readily colonizes disturbed places where canopy cover has been severely reduced. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2. The nearest documented population of Cobb Mountain lupine is 1 mile from the Study Area. Cobb Mountain lupine was not identified within the Study Area.

VII-7h: Green monardella (*Monardella viridis*)

This perennial sub-shrub in the mint family (Lamiaceae) is endemic to California, located throughout many of the counties north of San Francisco within the inner coastal ranges. It prefers rocky places in brushy and wooded areas on all substrates. It blooms June through September. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 4.3. Green monardella is located within Bothe-Napa State Park. Green monardella was not identified within the Study Area.

VII-7i: Redwood lily (*Lilium rubescens*) – High Potential to Occur

Redwood lily is a bulbaceous species in the Lily family (Liliaceae), found from Santa Cruz County to Del Norte County. In the Napa County area, it is frequently found in forested areas on steep slopes, openings and canyons in filtered sun. It is also found in the redwood regions along the coast. It prefers volcanic substrates. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 4.2. Redwood lily has been identified less than a mile from the Study Area. Redwood lily was not identified within the Study Area.

VII-7j: Coast range triplet lily (*Triteleia lugens*)



Coast range triplet lily in Block 4.

Coast range triplet lily is a member of the brodiaea family (Themidaceae). It is found in Lake, Napa, Solano, Monterey and San Benito counties. It is a perennial which grows from a corm. Flowers are dark yellow with purple-brown mid-ribs and can be seen blooming from May through July. It grows on rocky, shallow volcanic or sedimentary soils in partial shade or sun. It is common after fires. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 4.3. Coast range triplet lily is located within the Study area near Block 4. Approximately 200 plants are found along a 700-foot span along the ephemeral drainage just north of Blocks 4 and 4b. The headwaters of this drainage are situated near the boundary of the Bothe-Napa State Park, with several individuals located within the state park as well.

VII-8: Impacts to mosses and lichens: No rare lichens or mosses were discovered within the Study Area. Moss and lichens would be adversely affected by vineyard development; however, plant succession will continue outside the Project Area and will continue to create suitable habitat for mosses and lichens.

VII-9: Glass Wildfire Impacts to Plants: There is a potential that the detection of sensitive plant species can be either positively or negatively affected by fire. Some species, such as the Cobb Mountain Lupine (*Lupinus sericatus*), might not have been present prior to the fire but their rather long-lived seedbank may have germinated following the high-level of disturbance post-fire (personal observation – see adjacent picture of newly documented population of Cobb Mountain lupine in Glass wildfire footprint outside of Study Area but within BREA). This indicates that the plant species was present on-site before plant succession eventually shaded out the original population. Species such as Napa false-indigo (*Amorpha californica var. napensis*) readily resprout after a fire if the root system is unharmed, and in many cases, populations become more abundant with an increase in sunlight due to less competition. Other species, like annuals, may be either harder or easier to detect, depending upon the pre-fire presence of invasive plant species. In some areas where French broom (*Genista monspessulana*) was present at the edge of



a forest or along a road, these invasive plant populations boom post fire with their extensive long-lived and large seedbanks, extending beyond their original population centers and amassing an almost solid stand of broom. However, in areas where invasive plants are not present, annuals may resurge at high levels due to bare mineral soil layer and reduced competition from woody vegetation.

VII-10: Special Status Species - Wildlife: Based upon a review of the resource databases, 86 special status wildlife species have the potential to occur within the Biological Resources Assessment Area (Attachment #4). Fifteen (15) of these wildlife species have the potential to occur in the Study Area. The remaining special status wildlife species documented within the Biological Resources Assessment Area are unlikely, or have no potential to occur within the Study Area for one or more of the following reasons:

- Aquatic Habitats Lacking (i.e. rivers, estuaries, marshes)
- Vegetation Habitat Inadequate or Missing (i.e. prairie, grassland, desert shrub, canopy cover)
- Physical Structures Inadequate or Missing (i.e. old-growth, mines, caves, cliffs)
- Topographic Conditions (i.e. elevation, flat ground)
- Associated Natural Communities (i.e. cliff near water, tidal marsh)
- Geographically Isolated – Study Area is isolated from the documented range
- Land Use
- Listing Status – The Study Area is Outside the Listed Subspecies Range

The following discusses the 15 target species in greater detail and their sensitivity to habitat loss.

VII-10a: Cooper's Hawk (*Accipiter cooperii*)

Migration & Movement: A breeding resident throughout most of the wooded portion of California. Ranges from sea level to above 9000'. Mostly a yearlong resident, but some may migrate to lower elevations in areas of heavy snow.

Habitat: Dense stands of live oak, riparian deciduous, or other forest habitats near water are used the most frequently. Hunts in broken woodland and habitat edges, often dashing suddenly from perch in dense cover and pursues prey in the air through branches. Nests in deciduous trees in crotches or horizontal branches of conifer trees. Nest is a stick platform lined with bark. Cooper's Hawks eat small birds, small mammals but will also take reptiles and amphibians.

Breeding Season: Breeds March through August with peak activity May through July. Cooper's Hawks are known to have nested in Napa County.

Potential Threats: Habitat degradation, mainly lowland riparian areas. Direct or indirect human disturbance at nest site can be detrimental.

Study Area: Suitable Cooper's Hawk habitat was found within Blocks 1, 5 and 6 and the area immediately adjacent to these Blocks pre-wildfire. The distance to deciduous riparian areas may reduce the habitat suitability. The Project Area habitat was further downgraded due to large swaths of overstory canopy cover burned during the Glass wildfire and Emergency Notice of Timber Operations removing dead/dying trees. No Cooper's Hawks were detected within the study area.

VII-10b: Sharp-Shinned Hawk (*Accipiter straitus*)

Migration & Movement: Fairly common migrant and winter resident throughout California, except in areas with deep snow.

Habitat: Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitat. There appears to be a preference to riparian habitats often on north facing slopes. Usually nests in dense, pole and small-tree stands of conifers (well shaded with little ground cover) near water. Nest is a platform or cup in dense foliage against trunk, or in main crotch of trees. Sharp-shinned hawks eat mostly small birds (smaller than Jays), but will also take small mammals, insects, reptiles, and amphibians. Often forages in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines.

Breeding Season: Breeds April through August, with peak in late May to July. Sharp-shinned hawks are known to have nested in Napa County.

Potential Threats: Breeding population in California is small.

Study Area: Suitable Sharp-Shinned Hawk habitat was found within Blocks 1, 5, and 6 and the area immediately adjacent to these areas. The distance to deciduous riparian areas may reduce the habitat suitability. The Project Area habitat was further downgraded due to large swaths of overstory canopy cover burned during the Glass wildfire and Emergency Notice of Timber Operations removing dead/dying trees. The cnddb lists Sharp-Shinned Hawks within 5-miles of the Study Area, within the Cyrus Creek area. No Sharp-Shinned Hawks were detected within the study area.

VII-10c: Vaux's Swift (*Chaetura vauxi*)

Migration & Movement: Vaux's Swifts are summer residents of northern California.

Habitat: Preferred nesting habitats include redwood, Ponderosa pine, and Douglas-fir forests, often near water. Nests and roost sites are typically built on the vertical inner wall of a large, hollow tree or snag, especially tall stubs charred by fire. Occasionally nests in chimneys and buildings. Feeds exclusively on flying insects high in the air over most terrains and habitats.

Breeding Season: Arrive in California mid-April and breeds from early May to mid-August. Leave breeding grounds mid-August to early September. Solitary nesting is typical; however, communal roosts particularly during migration are common. Vaux's Swifts are known to have nested in Napa County.

Potential Threats: Removal of nest-sites. Sometimes heavily parasitized by lice.

Study Area: Suitable Vaux's Swift habitat is found within the Study Area and area immediately adjacent to the Study Area. The habitat may have been improved due to the Glass wildfire creating more potential nest sites. No Vaux's Swifts were observed within the study area.

VII-10d: Olive-Sided Flycatcher (*Contopus cooperi*)

Migration & Movement: Olive-Sided Flycatchers are summer residents in a wide variety of forest and woodland habitats below 9,000' throughout California.

Habitat: Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine; usually along forest edges. Requires large, tall trees, usually conifers, for nesting and roosting sites; and often uses dead tips of uppermost branches of the tallest trees in the vicinity for singing posts and hunting perches. Nests are an open cup of grasses, mosses, lichens, rootlets, or pine needles 5' to 70' above the ground. These birds forage for flying insects in forest openings, burns, edges, and other mixed open area in forest habitats.

Breeding Season: Detailed life history information is lacking. Peak of egg-laying is in June. Olive-Sided Flycatchers are known to have nested in Napa County.

Potential Threats: Habitat degradation and loss is the most important threat.

Study Area: Suitable Olive-Sided Flycatcher habitat was found within the Study Area and area immediately adjacent to the Study Area. The Project Area habitat was downgraded due to large swaths of overstory canopy cover burned during the Glass wildfire and Emergency Notice of Timber Operations removing dead/dying trees. No Olive-Sided Flycatchers were detected within the study area.

VII-10e: Purple Martin *(Progne subis)*

Migration & Movement: Uncommon to rare local resident in a variety of wooded, low-elevation habitats throughout the state.

Habitat: Purple Martins frequent old-growth, multi-layer, open forests and woodlands with snags during the breeding season. They forage over riparian areas, forests, and woodlands. They also occur in coniferous habitats, including closed-cone pine-cypress, ponderosa pine, Douglas-fir, and redwood forests. Nests are in an old woodpecker cavity (often a tall, large cavity tree), but will use human-made structures such as nesting box, buildings, on utility poles, under bridges, or in a culvert. Purple martins forage on insects, especially large ones like dragonflies.

Breeding Season: Purple Martins breed April through August, with peak activity in June. Purple Martins are known to breed in Napa County.

Potential Threats: Populations have declined because of loss of large snags, fire suppression, and competition for nest cavities from European starlings and house sparrows.

Study Area: Suitable Purple Martin habitat was found within the Study Area pre-wildfire, particularly near Blocks 5 and 6. The CNDDB lists occurrences of purple martins within 5-miles of the Study Area, near Lake Orville. The impact of the Glass Wildfire may have improved the potential for nest sites (creation of snags and cavity trees); however, the Project Area was

logged under an Emergency Notice; thereby, removing dead and dying trees. No purple martins were detected within the study area.

VII-10f: Pallid Bat (*Antrozous pallidus)*

Migration & Movement: A relatively common species of low elevations in California.

Habitat: Occurs in wide variety of habitats including grasslands, shrublands, woodlands, and forests; but most common in open, dry habitats with rocky areas for roosting. Day roosts are in caves, crevices, mines and hollow trees or buildings. Roosts must protect bats from high temperatures. Night roosts may be in more open sites. Tree roosting has been documented within snags, basal hollows of conifers, and within bole cavities in oak trees. Prey items are primarily arachnids and insects including beetles, orthopterans, homopterans, moths, spiders, scorpions, solpugids, and Jerusalem crickets.

Breeding Season: Mates from late October to February with maternity colonies forming in early April. Young are born April – July, with most in May and June. Young have been observed flying in July and August.

Potential Threats: Sensitive to disturbance of roosting sites.

Study Area: The Study Area did have habitat present for foraging and roosting (cavity trees). The CNDDB lists occurrences of Pallid Bats within all directions of the 5-mile assessment area. Due to the Glass Wildfire, some burned hollow trees may have been created; however, the Project Area was logged under an Emergency Notice; thereby, removing dead and dying trees. Bats were observed during nocturnal NSO surveys near the south/southeastern property boundary. A targeted bat survey was not completed under this assessment.

VII-10g: Ringtail (*Bassariscus astutus)*

Migration & Movement: A widely distributed, common to uncommon permanent resident in California.

Habitat: Occurs in various riparian habitats, and in brush stands of most forest and shrub habitats, at low to middle elevations. Primarily carnivorous, eating rodents (woodrats and mice) and rabbits. Will also eat birds, eggs, reptiles, invertebrates, fruit, nuts, and some carrion. Use hollow trees, logs, snags, cavities in talus or other rocky areas, and other recesses are used for cover. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests. Usually found within ½ mile of permanent water.

Breeding Season: Young are born in May – June, with an average litter of 3.

Potential Threats: Predators include bobcats, raccoons, foxes, and large owls. Potential competition for food exists between ringtails and raccoons, foxes, coyotes, large owls, rattle and gopher snakes.

Study Area: The Study Area did have habitat present for foraging and roosting (cavity trees, rocky areas). Due to the Glass Wildfire, some burned hollow trees may have been created;

however, the Project Area was logged under an Emergency Notice; thereby, removing dead and dying trees. The rocky areas throughout the study area may not have rock crevices large enough to provide recess areas for ringtails, and located too far from riparian habitat to be suitable. No ringtails were identified within the study area.

VII-10h: Townsend's Big-Eared Bat (*Corynorhinus townsendii)*

Migration & Movement: Townsend's Big-Eared Bats are found throughout California, with their distribution not well known. They are a relatively sedentary species making short movements to hibernations sites.

Habitat: This species is found in all but subalpine and alpine habitats, being most abundant in mesic habitats. Small moths are the principal food of this species, with beetles and a variety of soft-bodied insects also taken. Caves, mines, tunnels, buildings, or other human-made structures are used for roosting with separate day, night, hibernation and maternity roosts used. Small clusters or groups (less than 100 individuals) of females and young form the maternity colony. Glean insects from brush or trees and feeds along habitat edges.

Breeding Season: Mating occurs from November – February. Births occur in May and June with a peak in late May. Young are weaned in 6 weeks and are able to fly in 2 ½ to 3 weeks after birth.

Potential Threats: Extremely sensitive to disturbance of roosting sites. Rabies is known to occur.

Study Area: The Study Area did have habitat present for foraging and roosting sites (hollow trees and snags). The CNDDB does list occurrences of Townsend's Big-Eared Bats within the BREA and 5-mile assessment area, with a known occurrence near Block 2 (observation from 1955 data). Due to the Glass Wildfire, some burned hollow trees may have been created increasing roosting sites; however, the Project Area was logged under an Emergency Notice; thereby, removing dead and dying trees. Bats were observed during nocturnal NSO surveys near the south/southeastern property boundary. A targeted bat survey was not completed under this assessment.

VII-10i: Western Red Bat (*Lasiurus blossevillii*)

Migration & Movement: Western Red Bats are locally common in some areas in California. There is migration between summer and winter ranges, and migrants may be found outside the normal range.

Habitat: Foraging occurs over a wide variety of habitats including grassland, shrub lands, open woodlands, forests, and croplands. They roost primarily in trees, less often in shrubs. Roosts are often along the edges of habitats and are often adjacent to stream, fields, or urban areas. Family groups may roost together and nursery colonies are found with many females and their young. May be found foraging with many other bat species, but usually does not roost with other species.

Breeding Season: Western red bats mate in August and September. Births are from late May through early July, with young capable of flight between 3 to 6 weeks of age.

Potential Threats: Rabies incidence in western red bats is relatively high. A variety of animals including hawks, owls, opossums, cats, and jays' prey on them.

Study Area: The Study Area did have habitat present for foraging and roosting (tree cavities and snags). Due to the Glass Wildfire, some burned hollow trees may have been created increasing roosting sites; however, the Project Area was logged under an Emergency Notice; thereby, removing dead and dying trees. Bats were observed during nocturnal NSO surveys near the south/southeastern property boundary. A targeted bat survey was not completed under this assessment.

VII-10j: Long-Eared Myotis (*Myotis evotis)*

Migration & Movement: The Long-Eared Myotis (bat) is widespread in California but generally uncommon within most of its range. Local movements to suitable hibernacula are made.

Habitat: Long-Eared Myotis have been found in nearly all brush, woodland, and forest habitat; but coniferous woodlands and forests seem to be preferred. They feed primarily on a variety of arthropods including beetles, moths, flies, and spiders. Foraging flight is slow and maneuverable, and this species is capable of hovering. They do require water. This species roosts in buildings, crevices, spaces under bark, and snags. Caves are used primarily as night roosts.

Breeding Season: Mates in the autumn. The young are born from May through July, with a peak in June. Most young are flying by early August. The maximum recorded longevity is 22 years.

Potential Threats: Sensitive to disturbance of roosting sites.

Study Area: The Study Area does have habitat present for foraging and roosting sites (under bark and snags). Due to the Glass Wildfire, some burned trees may have been created increasing roosting sites; however, the Project Area was logged under an Emergency Notice; thereby, removing dead and dying trees. Bats were observed during nocturnal NSO surveys near the south/southeast property boundary. A targeted bat survey was not completed under this assessment.

VII10k: California Giant Salamander (*Dicamptodon ensatus)*

Migration & Movement: Seasonal activity pattern in unknown. Adults have been observed active on rainy nights moving toward streams.

Habitat: Associated with water, preferable cold and flowing, is necessary for egg-laying sites and for aquatic larval. Usually found in cool, moist forest habitats and associated with rocky streams and springs; however, has been occasionally found in lakes and ponds. Where permanently flowing streams are available, adults may retain gills for an aquatic adult stage.

Breeding Season: Breeds from March to May, with a peak in May.

Potential Threats: Preyed upon by water shrews and aquatic garter snakes. Adults cannibalize larvae.

Study Area: There is a pond within the Study Area that would be marginally suitable for California Giant Salamanders; however, it does not have the flowing water and rocky substrate preferred for nesting. The cnddb lists occurrences in York Creek to the south of the Project within 5-miles of the ownership. No California Giant Salamanders were observed. The closest proposed vineyard block, Block 4b, is over 1,000' from the pond. Other watercourses within the ownership are seasonal and may lack suitable substrate and water flow for California Giant Salamanders.

VII10l: Western Pond Turtle (*Emys marmorata)*

Migration & Movement: During spring or early summer, females move overland for up to 325' to find suitable sites for egg-laying. Other long distant movements are in response to dispersal to other local bodies of water or other features.

Habitat: Associated with permanent ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams in a wide variety of habitats. Require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. The western pond turtles are omnivorous eating aquatic plant material (including pond lilies), beetles, and a variety of aquatic invertebrates as well as fish, frogs, and carrion. Nesting includes sandy banks along slow-moving streams; or along foothill streams, females may climb hillsides with nests within many soil types (sandy to very hard).

Breeding Season: Three to eleven eggs are laid from March to August. The incubation period of eggs range from 73 to 80 days.

Potential Threats: Hatchlings may be subject to rapid death by desiccation if exposed to hot, dry conditions. Hatchlings and juveniles are preyed upon by fish, bullfrogs, garter snakes, wading birds, and mammals.

Study Area: There is a pond within the Study Area that might be suitable for western pond turtles. The cnddb lists occurrences of pond turtles in private ponds, Sulphur Creek, and Napa River within 5-miles of the ownership. No western pond turtles were observed on 18APR22; however, overcast and cooler temperatures was not ideal for observing basking turtles. The closest proposed vineyard block, Block 4b, is over 1,000' from the pond. The pond is subject to seasonal water conditions and may go dry during the summer months. Other watercourses within the ownership may lack suitable pools and water flows for western pond turtles.

VII10m: California Red-Legged Frog (*Rana draytonii)*

Migration & Movement: Active all year coastally, but with periods of inactivity elsewhere. A highly aquatic species with little movement away from streamside habitats.

Habitat: Requires permanent or nearly permanent pools for larval development, which takes 11 to 20 weeks. Occurs in vicinity of quiet, permanent pools of streams, marshes, and occasionally ponds.

Breeding Season: Breeds January to July with a peak in February in the south, and March to July in the north.

Potential Threats: Populations are highly restricted and consist of small numbers of individuals. Human activities that result in habitat destruction and/or the introduction of exotic competitors (i.e. bullfrogs and sunfish) may have a negative effect.

Study Area: There is a pond within the Study Area that might be marginally suitable for California Red-Legged Frogs. The cnddb lists occurrences of California Red-Legged Frogs in the Napa River within 5-miles of the ownership. No red-legged frogs were observed on 18APR22; however, overcast and cooler temperatures was not ideal for observing frogs. The closest proposed vineyard block, Block 4b, is over 1,000' from the pond. The pond is subject to seasonal water conditions and may go dry during the summer months. Other watercourses within the ownership may lack suitable pools and water flows for California Red-Legged Frogs.

VII10n: Western Bumble Bee (*Bombus occidentalis)*

Habitat: Western Bumble Bees inhabit a wide variety of natural, agricultural, urban, and rural habitats; although species richness tends to peak in flower-rich meadows of forests and subalpine zones. Western Bumble Bees are often found in wetter areas. Bumble Bees nest and hibernate in the ground in abandon rodent burrows or similar holes, or above ground in log cavities, dense tufts of grass, or dead vegetation. They require floral resources and undisturbed nest sites and overwintering areas. They are often associated with the following plants: Cirsium, Erigonum, Solidago, Aster, Ceanothus, Centaurea, Penstemon, Fabaceae, Asteraceae, Rhamnaceae, and Rosaceae.

Breeding Season: Primitively eusocial insect that live in colonies made up of one queen, female workers, and near the end of the season reproductive members of the colony (new queens and males). New colonies are initiated by solitary queens, generally in the early spring. The flight period of queens in CA is early February to late November, peaking in late June and late September. The flight period for workers and males is from early April to early November with worker abundance peaks in early August and male abundance peaks in early September.

Potential Threats: Pathogens from commercial bumble bees and other sources, impacts from reduced genetic diversity, and habitat alterations (conifer encroachment, grazing). Other threats include pesticide use, fire, agricultural intensification, urban development, and climate change.

Study Area: The Study Area does have habitat present for western bumble bees, with Cirsium, Erigonum, Asteraceae, Ceanothus, Fabaceae, Rhamnaceae, and Rosaceae all identified. The cnddb lists occurrences of western bumble bees near the Napa River just outside the BREA but within the 5-mile assessment area. Bumble Bees are not known to forage on grape flowers/pollen. No bumble bees were identified within the Study Area.

VII-10o: Northern Spotted Owl (*Strix occidentalis caurina)*

Migration & Movement: Resident within suitable habitat.

Habitat: Northern Spotted Owl's habitat includes a forest with dense, multi-layered canopy of several tree species; tree species of varying sizes and ages; abundant snags/cavity trees, broken tops, or platform-like structures; and open spaces among the lower branches to allow for flight. USFWS further defines NSO habitat as having at least 40% overstory canopy cover, with nesting/roosting habitat within stands exceeding 60% overstory canopy (with over 80% preferred). In this area, there appears to be a preference for narrow, steep-sided canyons with north-facing slopes. Feed primarily upon woodrats, but also known to eat squirrels, mice, voles, and rabbits.

Breeding Season: Northern Spotted Owls breed February through August, with peak activity in April and May. Northern Spotted Owls are known to breed in Napa County.

Potential Threats: Sensitive to habitat destruction and fragmentation. Invading barred owls displacing NSOs from their territories.

Study Area: Pre-Glass wildfire, nesting/roosting habitat was present within the Study Area around Blocks 5, 6, and 1. Block 4 had foraging habitat pre-wildfire. Blocks 1b, 2, 3, and 4b did not contain northern spotted owl habitat due to forest type, lack of canopy cover, and topography. However, due to burn intensity and the area being logged under an Emergency Notice removing the overstory vegetation; there is no longer suitable northern spotted owl habitat within the Project Area; however, marginal suitable habitat does exist within ¼ mile of some of the Project Area. No Northern Spotted Owls were detected within the Study Area, with nocturnal protocol surveys completed in 2018, 2019, 2020, 2021, and 2022.

No special status wildlife species were identified within the Study Area. A list of all animal species identified within the Study Area are included in Attachment #5.

VII-11: Unique Species that are Endemic, Rare or Atypical for the Area: Unique populations of organisms are associated with microclimates or specific habitats which are part of the diversity of the California landscape. This includes fringing populations of organisms at their limits geographically or associated with particular soils or geologic features. No unique or unusual populations of animals were present within the study area.

VII-12: High-Value Wildlife Trees: High-value wildlife trees includes trees that would provide sufficient food sources (nectar, fruit, flowers, nuts, and foliage) for wildlife; draw in pollinators and seed dispersers; provide nesting/roosting sites for birds and bats (structural complexity); store large amounts of carbon; and could provide a stepping stone for birds and bats to different habitats. Some attributes to high-value wildlife trees includes:

- Excavated cavities present – snags and cavity trees
- Crevices present – loose bark or cracks suitable for bats
- Large brooms present
- Active or recent wildlife use

- Tree structure suitable for wildlife use (large nest, hunting perch, goose pen)
- Large trees for the site (height and diameter)
- Locally important tree species
- Wolf (Coon) Trees (tall forest tree with large girth and great spreading branches)

A few small stick nests (probable squirrel nests) were identified throughout the Study Area. These structures could be altered and used by raptors as nest sites; however, are currently showing no signs of raptor use. The Glass wildfire may have made many of the stick nests unsuitable for raptors due to lack of overstory canopy cover now present (stick nests within dead trees and no cover trees surrounding them).

Broken topped trees, snags, and cavity trees were identified throughout the Study Area, with many created by the Glass wildfire. These structures could be used by nesting birds or nesting/roosting mammals (bats, rodents). The lack of live "screen" trees (due to the wildfire) may decrease the value of these trees. Within the Project Area, a CalFire Emergency Timber Operations Permit to remove burned dead/dying trees removed these trees prior to species moving into the area; however, many cavity trees, like that shown in this picture, occur outside the Project Area.



Roosting Bats: Foliage, deep fissures in bark, and trees with cavities could provide suitable temporary habitat for solitary tree-roosting bat species. Colonial roosting species may use trees with broken tops, deep fissures in bark, chimney trees, and cavity trees (snags). Potential roost trees were identified within the study area, with many created by the Glass wildfire. The lack of live "screen" trees (due to the wildfire) may decrease the value of these trees. Within the Project Area, a CalFire Emergency Timber Operations Permit to remove burned dead/dying trees removed these trees prior to species moving into the area; however, potential bat roost trees occur outside the Project Area.

Rookery: A bird rookery is a large, clustered nesting bird colony. Each nest is typically independent, with nearby parent birds caring for only their nestling. No Rookeries have been identified within or near the study area.

VII-13: Cliffs, Caves, and Rocky Outcrops: Cliffs, caves, and rocky outcrops are unique habitats that can provide topographic diversity in otherwise homogeneous landscape. These unique habitats can provide wildlife species with protection from the elements and potential predators (denning and hibernation sites), provide breeding or rearing young sites, and thermoregulation sites (basking). No cliffs or caves were identified within the study area. Rocky outcrops were identified throughout the study area.

Cliffs: Cliffs are steep rocky outcrops with greater than 65 degrees in slope and at least 4' in height. No cliffs have been identified within or adjacent to the study area.

Caves: Caves and/or rock shelters are associated with cliffs, canyons, and rock outcrops. A cave is any naturally occurring cavity, recess or system of interconnected passage ways beneath the surface of the earth or within a cliff or ledge. No natural caves have been identified within or adjacent to the survey area.

Rocky Outcrop: Rocky Outcrop is a visible exposure of bedrock or superficial deposits on the earths' surface where underlying rocks are exposed. Rocky outcrops come in all shapes and sizes, ranging from huge granite boulders strewn across hilltops, to small collections of scattered rocks.

Numerous areas with clustered rocks were identified throughout the study area. It appears these were man-made (collection of rocks moved away from farming sites). There are no steep sides, no large overhangs, and is accessible to all wildlife species. These sites may be suitable for basking reptiles or cover underneath for amphibians and reptiles. They are not large or tall enough to support roosting bats or raptors. These unique rock-habitat elements are located outside the Project Area, with the Project not proposing to remove these features and perhaps adding to them as rocks are removed due to farming.



Rock clusters near Block 1.

VII-14: Wildlife Corridors: 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. Corridors also provide ecosystem services such as preservation of watershed connectivity. 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.

The Study Area does not connect any unique habitats together. There are ephemeral streams on the property, which even when dry, could provide localized movement and shelter habitat for common wildlife species. Due to fire damage, fencing is down and open in many areas throughout the property,

with deer fence replacement on-going to protect existing vineyards. Deer-fencing construction can be completed to allow for passage of wildlife species (see Project Recommendation Section).

VII-15: Habitat Fragmentation: Habitat Fragmentation is a local and global concern. Habitat fragmentation can result in a net loss of habitat and genetic isolation. Small clearings can increase the edge habitat and can be beneficial for wildlife and botanical resources, while detrimental to others. The Project Area is located within a populated area (Map #1) and is subject to a lot of disturbance (roads, houses, winery, existing vineyards). The proposed vineyards are not located within a contiguous forested ecosystem, and all but Block 6 are located along existing vineyards (Map #4). Block 6 will be adjacent to Block 5, which is along an existing vineyard. The area was also burned during the 2020 Glass wildfire and the property, and majority of the watershed, does not offer large tracks of contiguous live forest The proposed change in land use will result in less than significant changes in avifauna and wildlife utilization in the area. 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.

VIII. PROJECT RECOMMENDATIONS

The significant criteria of potential impacts are a function of the scope and scale of the proposed project within the existing Federal, State, and Local regulations and management practices. The Project must comply with Napa County 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. The Erosion Control Plan setbacks and buffer zones are designed to provide protection for the watershed and resources.

There are watercourses within the Study Area, including a pond. All vineyard blocks are designed with a set-back (buffer zone) the appropriate distance required by Napa County and California State requirements.

Using our vegetative analysis, a total of 10.46 acres of Douglas-fir forest (pre-2020 wildfire), 1.74 acres of Coastal Live Oak (pre-2020 wildfire), and .97 acres of existing agricultural (.87 acres unpermitted vineyards and .1 acre open area along unpermitted vineyard) will be converted to grapes. These acres are pre-2020 wildfire vegetation classification. The blocks did burn and all dead/dying trees were removed using CalFire Emergency Notice. Currently these blocks may consist of only a few live trees and tree stumps.

The following recommendations are proposed to reduce potential impacts to wildlife and botanical species, and habitat both on and immediately off-site.

- **The Project has the potential to impact Coast Range Triplet Lily**

Recommendation: The following recommendations are listed in order of preference:

1. Avoid populations with a minimum 25' set back. This set back will help decrease incidental introduction of non-native and invasive plants utilized in vineyard plantings from encroachment.
2. Avoid populations with set-back of no less than 25 feet. This buffer between the project and the plants will be maintained free of invasive species for a minimum of 5-years.
3. Install vineyard block - approximately 5% of the population would be removed with the installation. To mitigate this impact, the remainder of the population along the drainage would be protected from the increasing threat of French broom, which is a highly invasive plant with the potential to shade out the population. This will be done for a minimum of 5-years post-project implementation.
4. Plant communities and equipment exclusion area should be flagged prior and during construction activities.

- **The Project has the potential to impact Coast Live Oak Woodland Alliance**

Recommendation: Within Blocks 3 and 4, a total of 1.74 acres of Coast Live Oak Woodland will be converted into vineyard. In conformance with Napa County General Plan policy CON-22, the standard mitigation within the County of Napa calls for preservation of remaining woodlands at a ratio of 3 acres of preservation for each acre removed for vineyard development. Throughout the Property Ownership there is at least 21.99 acres of oak woodland, which is well over the necessary 5.22 acres of required 3:1 retention ratio.

- **The Project could have the potential to impact nesting raptors**.

Recommendation: Within the Project Area, all the overstory trees were removed through the CalFire Emergency Notice of Timber Operations; however live trees are still present in some areas adjacent to the Project Area. Disturbance to nesting raptors could occur during earthmoving activities and related project construction activities.

If earthmoving activities and related project construction activities is anticipated during the primary bird nesting season (01MAR – 31JUL), a preconstruction nesting bird survey will be necessary. The preconstruction survey shall consider all potential nesting habitat for birds within 500' of earthmoving activities and related project construction activities. A qualified surveyor shall conduct the surveys, which shall determine through field inspection whether occupied nests are present within the proximity of the Project site. Survey should focus primarily on nesting raptors, but also include nesting song birds (Vaux's swifts, purple martins, olive-sided flycatchers).

Surveys for nesting birds should be conducted within 14 days prior to ground breaking on the Project site. If an active nest is located near the Project Area, and there is the potential to affect breeding success; the biologist will establish an appropriate exclusion zone around the nest (often a 500' no disturbance buffer zone for raptors). This exclusion zone may be modified depending upon the species, nest location, disturbance history, and existing visual buffers. This no-disturbance buffer zone will be effective until the end of the breeding season, until it is determined by the biologist that all the young have fledged, or it is determined by the biologist that the nest has failed.

If initial ground disturbance is delayed or there is a break in Project activities of more than 14 days within the breeding season, then a follow-up nesting bird survey should be performed to ensure no new nests have been established in the interim.

- **The Project could have the potential to impact Vaux's Swift, Purple Martin and Olive-Sided Flycatcher nesting habitat.**

Recommendation: Within the Project Area, all the overstory trees were removed through the CalFire Emergency Notice of Timber Operations; however, live trees are still present in some areas adjacent to the Project Area. Disturbance to nesting birds could occur during earthmoving activities and related project construction activities.

If earthmoving activities and related project construction activities is anticipated during the primary bird nesting season (01MAR – 31JUL), a preconstruction nesting bird survey will be necessary. The preconstruction survey shall consider all potential nesting habitat for birds within 100' of earthmoving activities and related project construction activities. The preconstruction survey can be combined with the nesting bird survey recommended above. To include the Vaux's swift, purple martin and olive-sided flycatcher, the nesting survey should be completed by a surveyor familiar with their vocalizations. Snags and cavity trees should be searched for evidence of potential nesting birds.

- **The Project could have the potential to impact Western Bumble Bees**

At this time, information on bumble bee abundance and distribution; and the best way to conserve bumble bee populations is limited. Using the current available Pollinator Conservation Practices, protection of the western bumble bee (as well as many other pollinator species) include:

- Protect known nest sites from disturbance. (Ground nest sites look like ant holes at the surface, with above ground nests in snags/cavity trees or large woody debris). Ground nest sites can be protected by avoiding the area and leaving some semi-bare ground near the nest site. Retaining snags/cavity trees and some large woody debris will protect the above-ground nests. Large areas of heavily burned forest land have been retained around all of the potential vineyard blocks; therefore, snags/cavity trees and large woody debris is present outside the Project Area.
- Cultivate pollinator habitat in home gardens or other areas within the property at least 500' from vineyards. This is currently being done on the Schramsberg property through landscaping around winery and residential structures within the property boundary. Attachment #7 includes some bumble bee friendly plants.
- Encourage native plants and remove invasive plant species.

- **The Project will not impact Northern Spotted Owl Habitat, but could impact Nesting Owls.**

Recommendation: Within the Project Area, all the overstory trees were removed through the CalFire Emergency Notice of Timber Operations; thereby, eliminating northern spotted owl habitat. Spotted owl habitat still exists in some places within ¼ mile of the Project Area; therefore, disturbance to nesting northern spotted owls could occur during earthmoving activities and related project construction activities.

If earthmoving activities and related project construction activities is anticipated during the northern spotted owl breeding season (01FEB – 31AUG), northern spotted owl surveys will be necessary. A separate northern spotted owl assessment will be provided for this Project.

- **The Project will not impact roosting bats.**

Recommendation: Within the Project Area, all the overstory trees were removed through the CalFire Emergency Notice of Timber Operations. Harvesting completed under the Emergency Notice focused primarily on harvesting trees within the Project Area. Large areas of heavily burned forest land have been retained around all of the potential vineyard blocks; therefore, habitat for bats (and other cavity dependent species; i.e. ringtail) is still present outside the Project Area. No further action is recommended.

- **The Project has the potential to impact unique habitat (rocky outcrop).**

Recommendations: The rock outcrops are outside the Project Area (Map #7). Retain rock outcrop to the extent feasible. Limit hazard reduction burning near outcrops. Leftover vegetive material from vineyard/property maintenance should not be thrown over the rocks. This material can be a fire hazard and hinder growth of native vegetation.

- **The Project has the potential to impact Class 3 Watercourse (between Blocks 5 & 6).**

Recommendations: The class III watercourse between Blocks 5 and 6 was drastically impacted during the Glass wildfire, with further impacts possible due to the conversion to vineyards on each side; therefore, the setback for this watercourse was increased to 75' to assist in the conservation of this watercourse and retained standing dead trees. The ephemeral stream can be restored with the following restoration goals:

- Re-establish forest canopy within the watercourse setback area, by planting forest seedlings.
- Achieve a multi-storied vegetative canopy.
- Maintain or increase biodiversity
- Allow for surviving native vegetation to thrive.

To meet these goals, the following recommendations include:

1) Set Back Area – A minimum of 75' setback area will be established surrounding the Class 3 watercourse between Blocks 5 and 6.

2) Exotic/Invasive plants are spreading into upland areas to the detriment of native vegetation. In general, to decrease this potential:

    - Avoid planting invasive non-native plants. Non-native plants that particularly threaten areas in Napa County include: giant reed; Himalayan blackberry; periwinkle; German and English ivy; black locust; French, Scotch and Spanish broom; tamarisk; acacia; eucalyptus; and tree of heaven. **Planting of local, native vegetation is encouraged.**
    - Remove invasive non-native plants. French broom and stinkwort are both highly invasive and flammable plants that have become established within several areas of the property and are thriving after the Glass Wildfire. These plants are highly invasive and can spread quickly given the reproductive strategies including abundant seed production, long-lived seed banks and in the case of stinkwort, long-range seed dispersal strategies. **Removal of invasive species is encouraged.**

3) Big leaf maple are currently resprouting, however, due to lack of seed source and competition from grasses, planting is an effective tool to revegetate an area faster. In general, to assist in a successful planting:

    - Perform necessary site preparation and planting (late winter – February/March – coincide with rain forecasts) at a time and manner that ensures the survival.
    - Mulching fabrics should not be used due to surrounding native plants. Mulching planted trees and shrubs may be required to suppress competing vegetation (annual grasses) and facilitate moisture retention. Competing vegetation can be controlled through mowing or gas-powered weed-eaters. Cutting back the weeds will provide the new trees with more access to sun, nutrients, and water.
    - Irrigation may be required during the dry months of the first year after installation. If irrigation is necessary, sprinklers or hand watering should be used over drip systems. In dry years, drip tubing is often eaten by wildlife.
    - <u>Outside of the Project Area:</u>
        - Existing live trees should be left unmolested.
        - Existing stump sprouting rocky mountain maple trees should be left unmolested.
        - Plant redwood and Douglas-fir seedlings.
            - Offset seedling planting from existing native vegetation by 25'.



Newly planted redwood between Blocks 5 and 6 (JUN2022)

- Plant seedlings at a 20’ spacing, with a preference towards redwood seedlings over Douglas-fir. *Note: During a June botanical visit, it was noted that the landowner had planted redwood seedlings within this area recently.*

4) Temporary orange construction fences shall be installed along the edge of the 75’ setback prior to Project construction and will be maintained throughout Project construction to assist in keeping equipment outside this buffer zone.

5) Leftover material from vineyard/property maintenance should not be placed within the 75’ setback. This material can be a fire hazard and hinder growth of native vegetation or contribute to degradation of the watercourse.

- **Wildlife Fencing will be installed.**

Recommendation: Currently there is existing deer fencing in various stages of disrepair (due to age of fencing and wildfire) throughout the property. Fences can create hazards and barriers for wildlife. Black bear, mountain lion, bobcats, and deer sign have been observed within Bothe Napa Valley State Park to the south of Schramsberg’s property, so there is a presence of large animals within the watershed. Old fencing that services no purpose should be removed.

All fences should be limited to vineyard blocks to allow wildlife to move freely through the rest of the property (Map #8). Permanent exclusion fences for vineyards should be 7’ to 8’ high. Six-inch square mesh at the base should be used to allow smaller mammals and birds to move through the fence. Top wires should not be barbed. Place gates at corners, where accidentally trapped animals are more likely to find an escape. At a minimum, for the first year after construction, make the fence more visible by hanging flagging; and this will prevent fast moving animals from colliding into them.

IX. SUMMARY

This Report is provided as background information necessary for evaluating potential impacts of this Project on local wildlife, plant, and habitat resources.

The proposed project will not have a substantial adverse effect, either directly or through habitat modifications, on any special status species listed by United States Fish and Wildlife Service or California Department of Fish and Wildlife provided the Project Recommendations are followed.

The proposed project will not interfere substantially with the movement of any native resident or migratory wildlife or plant species provided the Project Recommendations are followed.

X. LIST OF ABBREVIATIONS & ACRONYMS

APN Assessor's Parcel Number
BGEPA Bald and Golden Eagle Protection Act
BREA Biological Resources Evaluation Area: includes all lands within 1 mile of the boundaries of the parcel(s) involved plus the County-defined drainage upstream and including the subject parcel(s) utilizing a standard community classification scheme.
BRRS Biological Resources Reconnaissance Survey
CalFire California Department of Forestry and Fire Protection
CARI California Aquatic Resource Inventory
CDFW California Department of Fish & Wildlife
CCR California Code of Regulations
CESA California Endangered Species Act
CEQU California Environmental Quality Act
CFGC California Fish & Game Code
CFR Code of Federal Regulations
CNDDB California Natural Diversity Database
CRPR California Rare Plant Rankings
CNPPA California Native Plant Protection Act
CNPS California Native Plant Society
CWA Clean Water Act
ECP Erosion Control Plan
EFH Essential Fish Habitat
ESA Endangered Species Act
FESA Federal Endangered Species Act
FP Fully Protected
GIS Geographic Information System
IPaC Information Planning and Consultation System
MBTA Migratory Bird Treaty Act
MCV Manual of California Vegetation
NOAA National Oceanic and Atmospheric Administration
NMFS National Marine Fisheries Service
NEPA National Environmental Protection Act
NRCS Natural Resource Conservation Service
NWI National Wetland Inventory
RWQCB Regional Water Quality Control Board
SFP State Fully Protected Species
SSC Species of Special Concern
USFWS United States Fish & Wildlife Service
WBWG Western Bat Working Group
WHR Wildlife Habitat Relationship System

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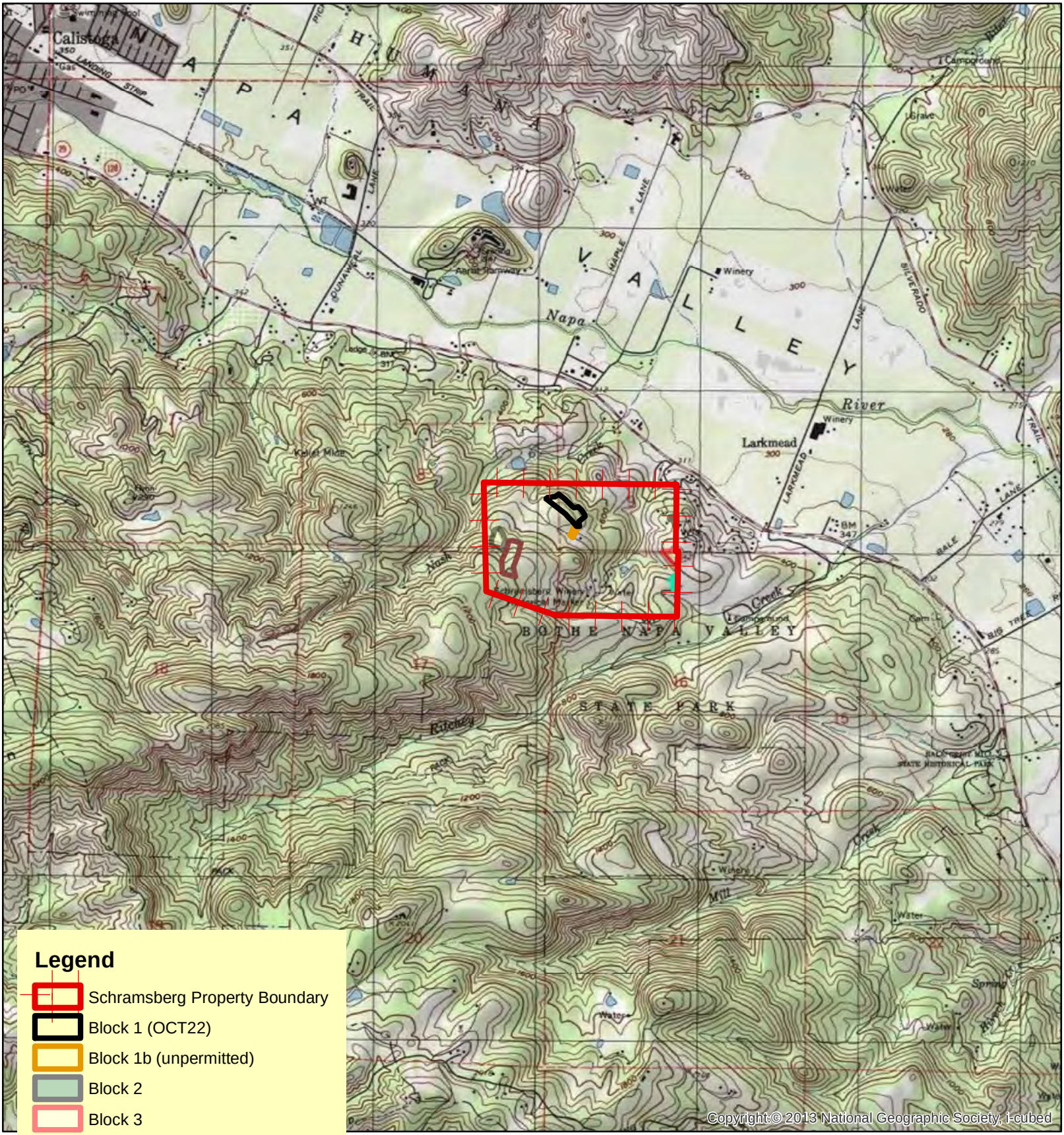
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Maps

Map #1 = Vicinity Map
Map #2 = Study Area – Topographic
Map #3 = Study Area – Aerial
Map #4 = Study Area Vegetation Map
Map #5 = BREA Vegetation Map (GIS source: Calveg)
Map #6 = Survey Routes
Map #7 = Location of Special Interest Areas Identified (topo and aerial)
Map #8 = Wildlife Fencing Guideline

Map #1

Schramsberg Project - Vicinity Map



Legend

- Schramsberg Property Boundary
- Block 1 (OCT22)
- Block 1b (unpermitted)
- Block 2
- Block 3
- Block 4
- Block 4b (unpermitted)
- Block 5
- Block 6

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management

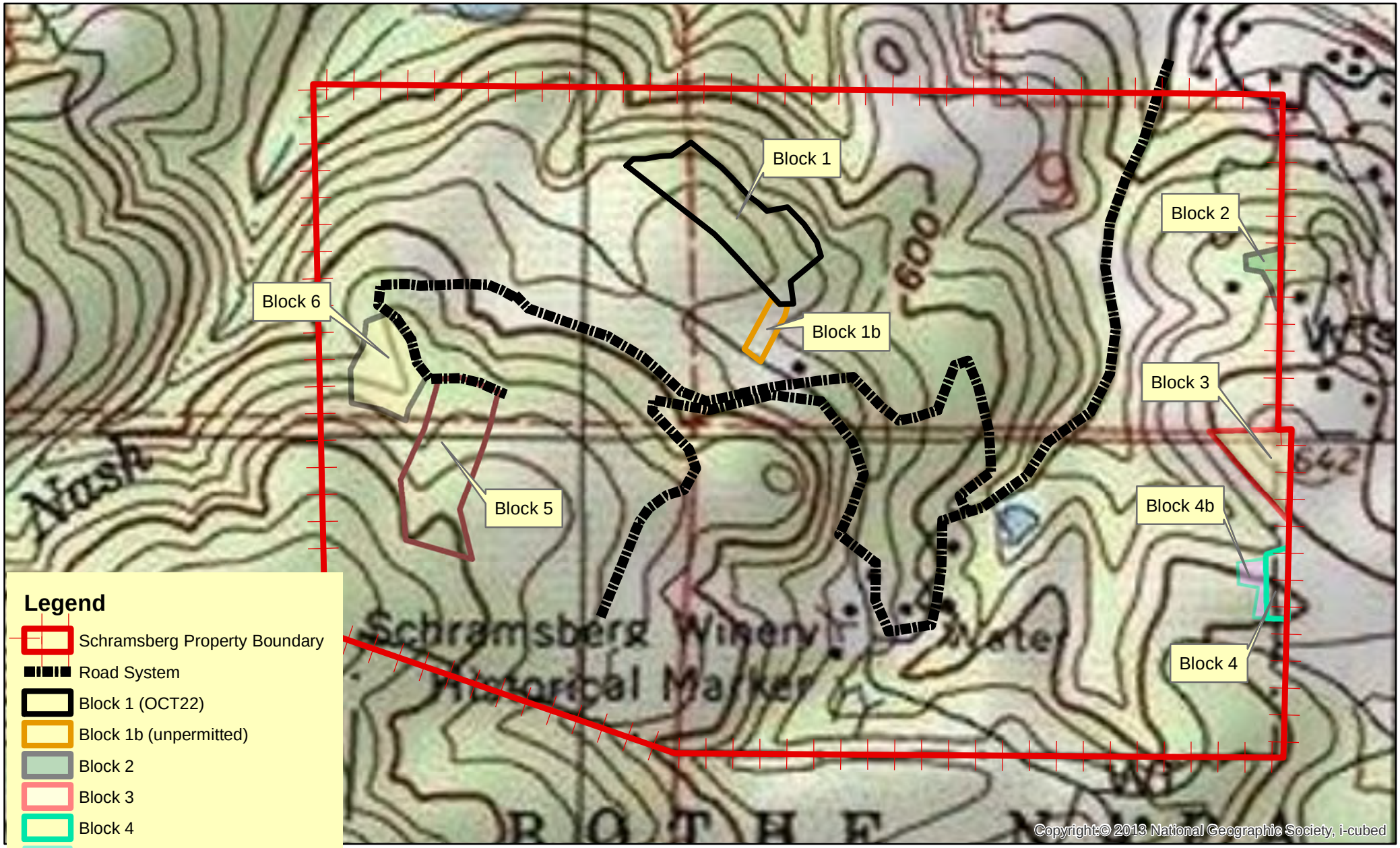
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1 inch = 3,280 feet

Date: 10/31/2022

Map #2

Schramsberg Project Area



Legend

- Schramsberg Property Boundary
- Road System
- Block 1 (OCT22)
- Block 1b (unpermitted)
- Block 2
- Block 3
- Block 4
- Block 4b (unpermitted)
- Block 5
- Block 6

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Date: 10/31/2022

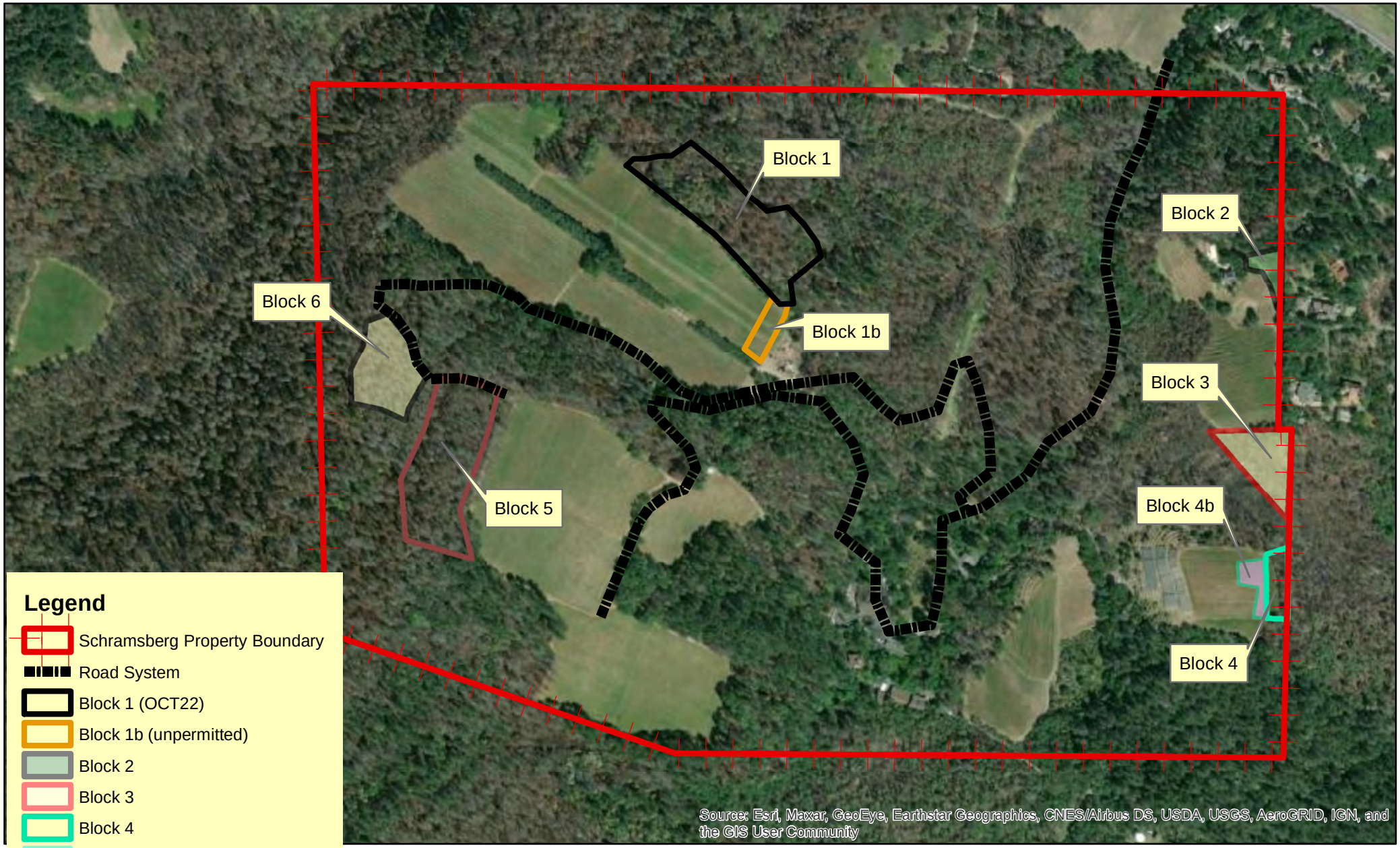
1 inch = 667 feet

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Forest Ecosystem Management

Map #3

Schramsberg Project Area



Legend

- Schramsberg Property Boundary
- Road System
- Block 1 (OCT22)
- Block 1b (unpermitted)
- Block 2
- Block 3
- Block 4
- Block 4b (unpermitted)
- Block 5
- Block 6

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Date: 10/31/2022

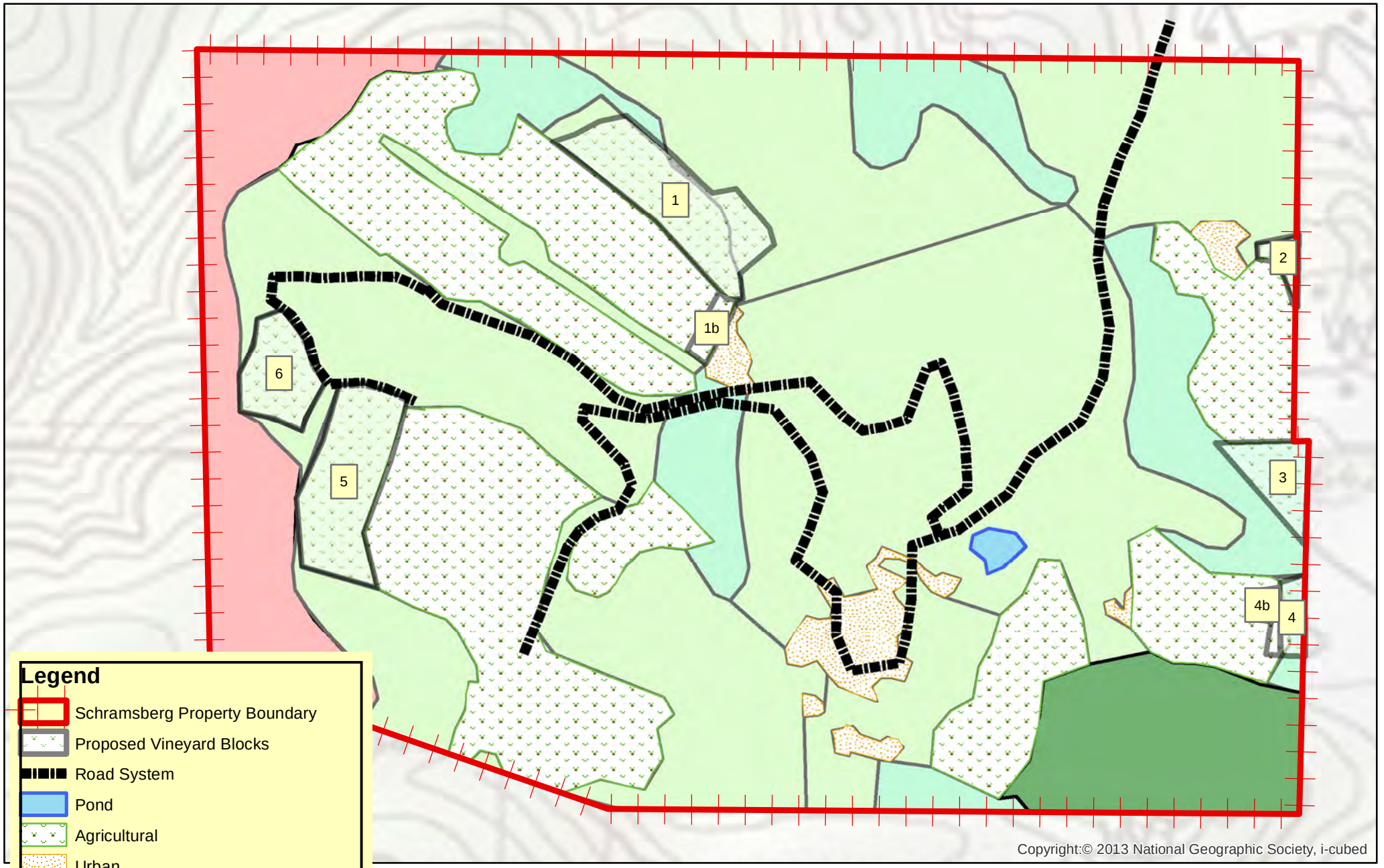
1 inch = 667 feet

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Forest Ecosystem Management

Map #4

Vegetation Alliance Schramsberg Study Area



Legend

- Schramsberg Property Boundary
- Proposed Vineyard Blocks
- Road System
- Pond
- Agricultural
- Urban
- Douglas-Fir & Ponderosa Pine Alliance
- Coast Live Oak Forest Alliance
- Douglas-Fir Forest Alliance
- Redwood, Douglas-Fir & CA Bay

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management &
Salix Natural Resource Management

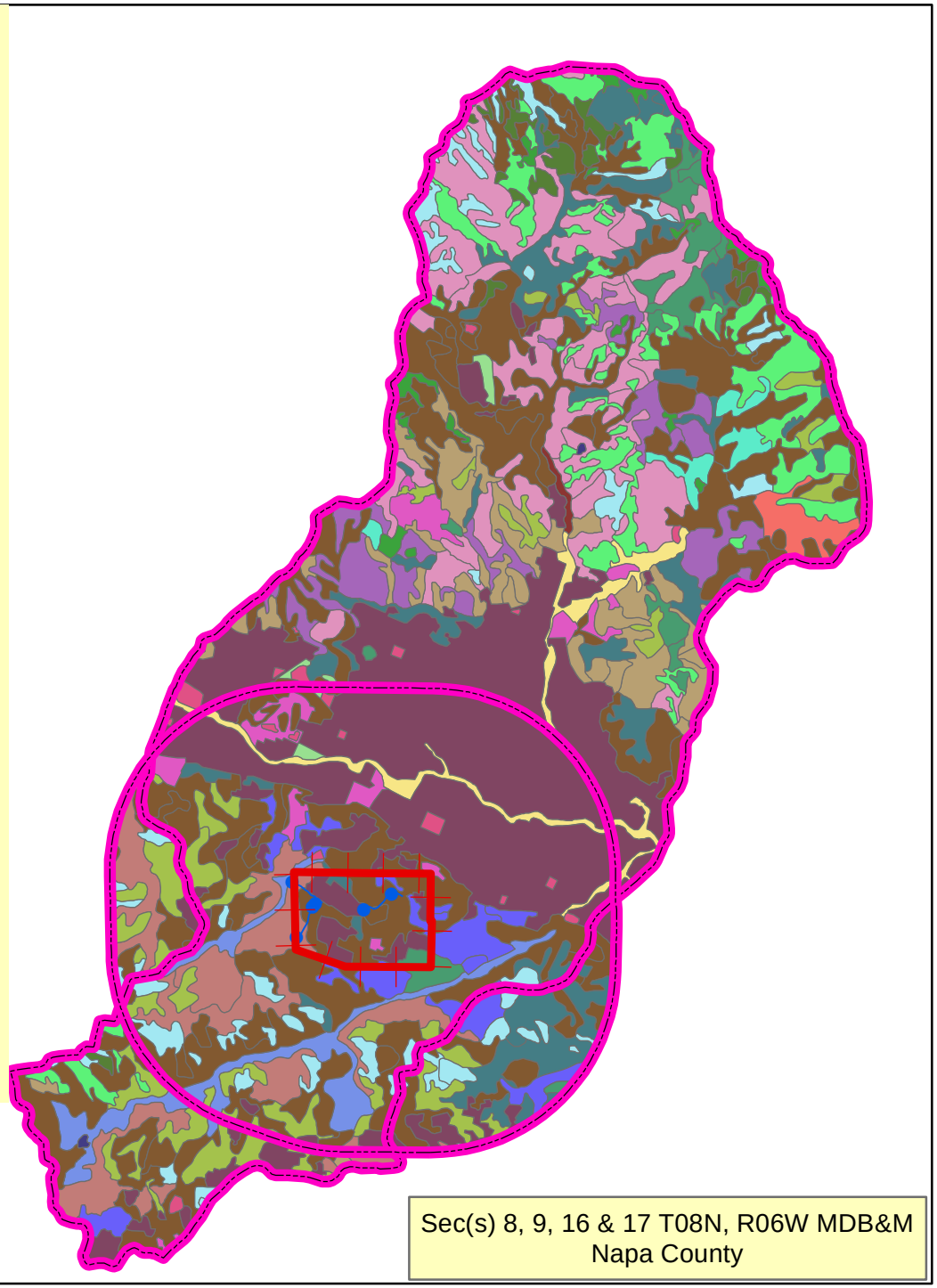
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1 inch = 583 feet

Date: 2/8/2023

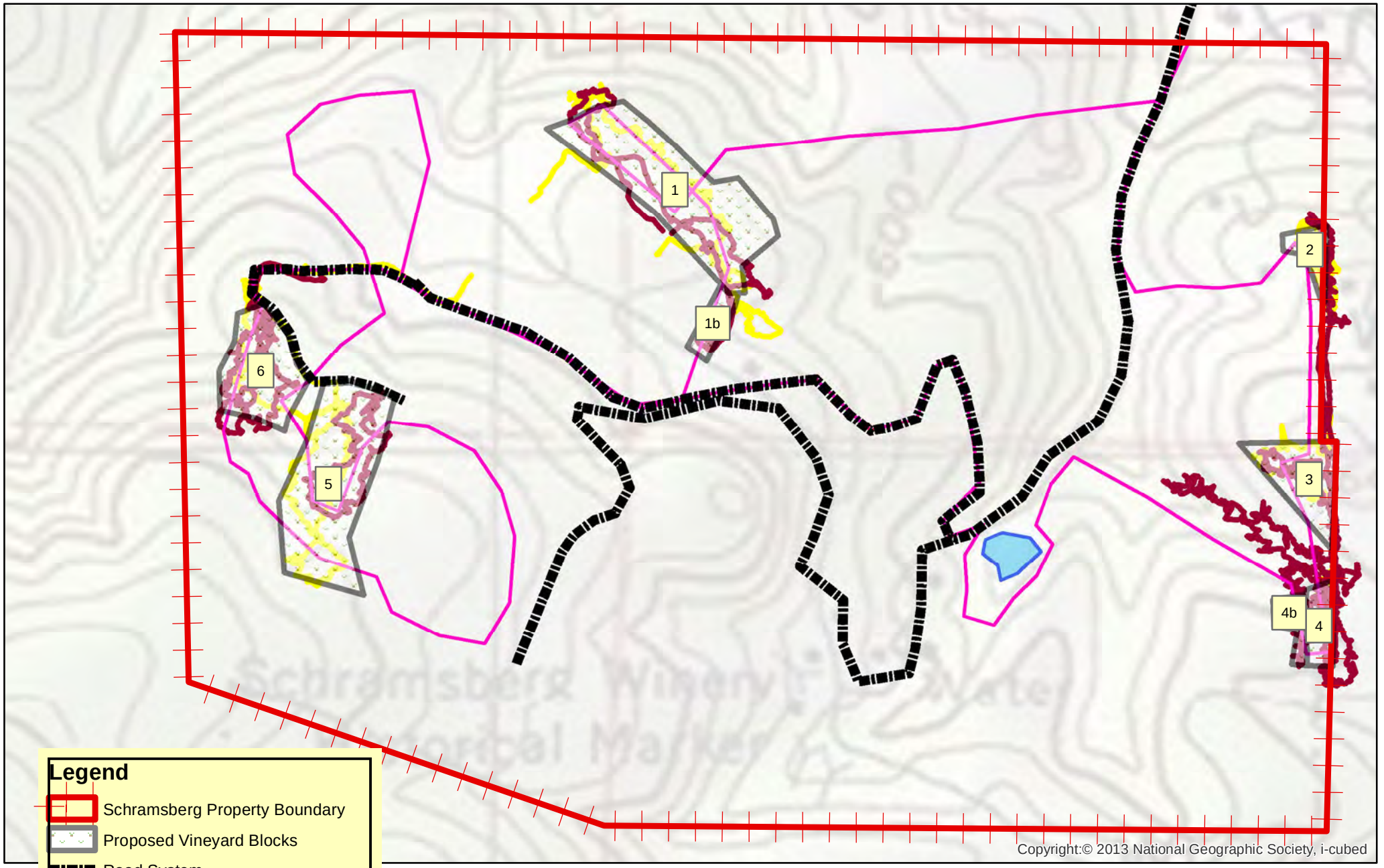
Map #5

Schramsberg Project - Vegetation Alliances within BREA



Map #6

Survey Routes (2022) - Schramsberg Study Area



Legend

- Schramsberg Property Boundary
- Proposed Vineyard Blocks
- Road System
- Pond
- Wildlife Survey Route (2022)
- April Botanical Survey (2022)
- June Botanical Survey Route (2022)

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management &
Salix Natural Resource Management

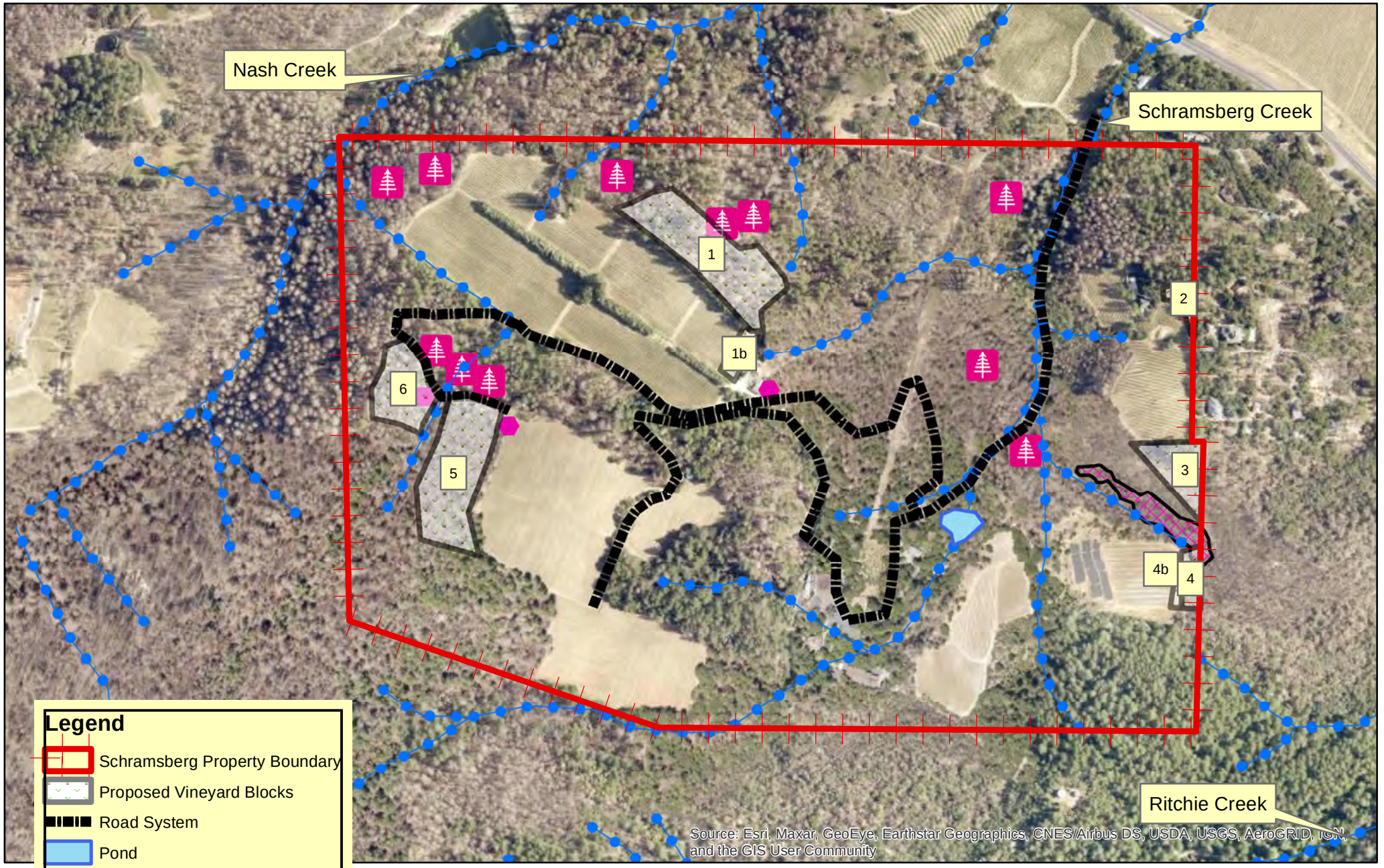
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1 inch = 558 feet

Date: 2/8/2023

Map #7 - Aerial

Areas of Interest - Schramsberg Study Area



Legend

- Schramsberg Property Boundary
- Proposed Vineyard Blocks
- Road System
- Pond
- Watercourse
- Coast Range Triplet Lily (TRLU)
- Rockpiles
- Cavity Trees

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management &
Salix Natural Resource Management

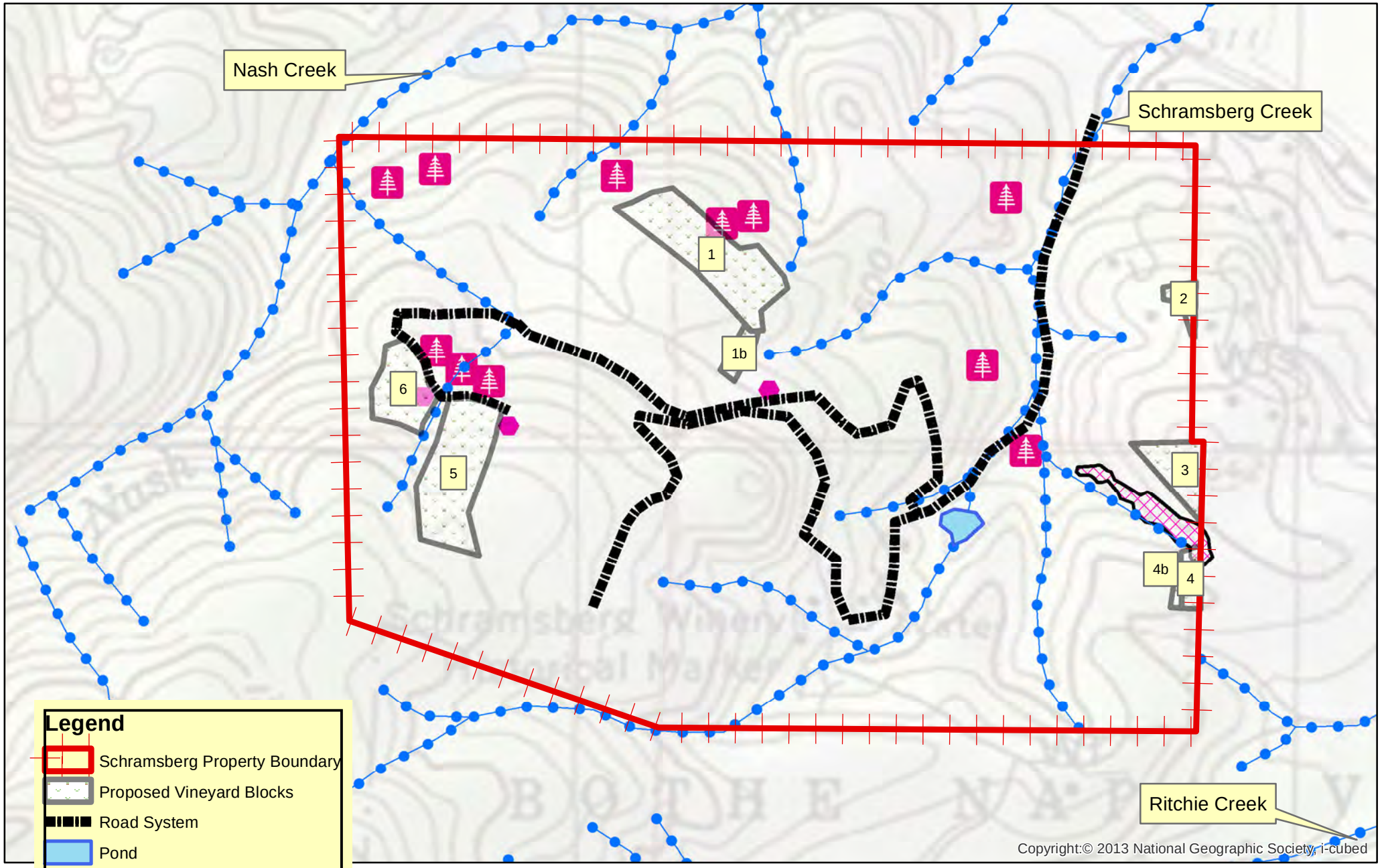
N

1 inch = 750 feet

Date: 2/8/2023

Map #7 - Topographic

Areas of Interest - Schramsberg Study Area



Legend

- Schramsberg Property Boundary
- Proposed Vineyard Blocks
- Road System
- Pond
- Watercourse
- Coast Range Triplet Lily (TRLU)
- Rockpiles
- Cavity Trees

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management &
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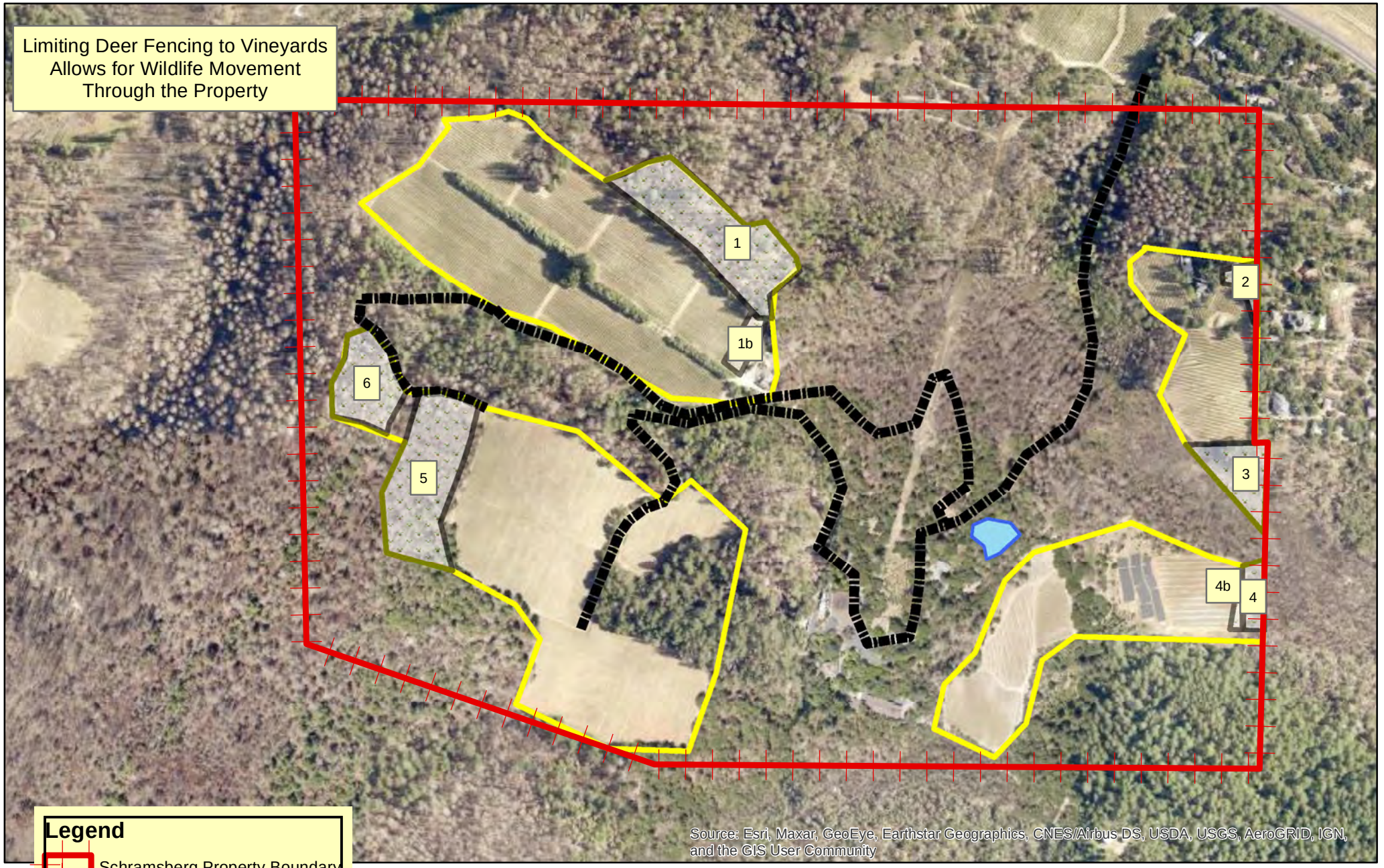
N

1 inch = 750 feet

Date: 2/8/2023

Map #8

Schramsberg Project - Wildlife Fencing Recommendations



Legend

- Schramsberg Property Boundary
- Proposed Vineyard Blocks
- Road System
- Pond
- Fencing

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management

N

1 inch = 667 feet

Date: 2/8/2023

Attachments

Attachment #1 = Photos of Study Area/Project Area
Attachment #2 = Special Status Plant Species Identified through Scoping
Attachment #3 = Plant Species Identified within Study Area
Attachment #4 = Special Status Animal Species Identified through Scoping
Attachment #5 = Animal Species Identified within Study Area
Attachment #6 = Sensitive Natural Communities Identified through Scoping
Attachment #7 = Bumble Bee Friendly Plants
Attachment #8 = Reference Material Including:

- Soil Survey Report
- BREA Map Delineation
- Cnddb Map
- California WHR Report
- USFWS IPac Report
- NMFS EHM

Attachment #1 - 4 pages

Schramsberg Photos
Taken April 2022

Stick Nests/Debris Structures Are Present Throughout the Property – No Active Raptor Use was Observed



Looking into Block 6



Within Block 6 Looking toward Block 5 (Standing Trees within Watercourse)



Human Piled Rocks (Good Wildlife Habitat)



Block 5



Human Piled Rocks can Serve as Rocky Outcrops and wildlife habitat



Glass Wildfire created numerous snag/cavity trees. These burned trees are located outside of Project Area and have been retained post-CalFire logging.





Block #4



Attachment #2 - Plant Scoping List

Botanical Scoping List[1] for Schramsberg Biological Assessment, 115 - 335 meters

Scientific Name	Common Name	Lifeform	CRPR[2]	GRank[3]	SRank[4]	CESA[5]	FESA[6]	Blooming Period	Habitat	Micro Habitat	Elevational Range (m)	Potential Habitat?
Allium peninsulare var. franciscanum	Franciscan onion	perennial bulbiferous herb	1B.2	G5T2	S2	None	None	(Apr)May-Jun	CW, VFG	Clay, Serpentinite (often), Volcanic	52-305 m	Moderate
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	perennial herb	1B.1	G5T1	S1	None	FE	May-Jul	MS, RS	Wet areas, marshes, and riparian banks, with other wetland species.	5-365 m	Unlikely
Amorpha californica var. napensis	Napa false indigo	perennial deciduous shrub	1B.2	G4T2	S2	None	None	Apr-Jul	BUF, Ch, CW	Openings in forest or woodland or in chaparral.	50-2000 m	High
Amsinckia lunaris	bent-flowered fiddleneck	annual herb	1B.2	G3	S3	None	None	Mar-Jun	CW, CBS, VFG		3-500 m	Moderate
Anomobryum julaceum	slender silver moss	moss	4.2	G5?	S2	None	None		BUF, LMCF, NCCF	Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts.	100-1000 m	Unlikely
*Antirrhinum virga**	twig-like snapdragon	perennial herb	4.3	G3?	S3?	None	None	Jun-Jul	Ch, LMCF	Openings, Rocky, Serpentinite (often)	100-2015 m	High
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	perennial evergreen shrub	1B.3	G5T3	S3	None	None	(Jan)Mar-May(Jul)	Ch, CW, LMCF	Volcanic	395-1615 m	High
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	perennial evergreen shrub	1B.1	G3T1	S1	None	None	Feb-Apr(May)	Ch, CW	Highly restricted endemic to red rhyolites in Sonoma County. 90-375 m.	75-370 m	High
*Asclepias solanoana**	serpentine milkweed	perennial herb	4.2	G3	S3	None	None	May-Jul(Aug)	Ch, CW, LMCF	Serpentinite	230-1860 m	Unlikely
*Astragalus breweri**	Brewer's milk-vetch	annual herb	4.2	G3	S3	None	None	Apr-Jun	Ch, CW, MeSe, VFG	Serpentinite (often), Volcanic	90-730 m	Moderate
Astragalus claranus	Clara Hunt's milk-vetch	annual herb	1B.1	G1	S1	CE	FE	Mar-May	Ch, CW, VFG	Clay, Rocky, Serpentinite (sometimes), Volcanic (sometimes)	75-275 m	High
*Astragalus clevelandii**	Cleveland's milk-vetch	perennial herb	4.3	G4	S4	None	None	Jun-Sep	Ch, CW, RF	Ultramafic seeps and creeks; sandy stream banks, gravel bars moist in spring, hillside seeps on slopes.	200-1500 m	Unlikely
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	annual herb	1B.2	G4T3	S3	None	None	Mar-Jun	Ch, CW, VFG	Serpentinite (often)	295-700 m	Unlikely
Balsamorhiza macrolepis	big-scale balsamroot	perennial herb	1B.2	G2	S2	None	None	Mar-Jun	Ch, CW, VFG	Serpentinite (sometimes)	45-1555 m	Moderate
Blennosperma bakeri	Sonoma sunshine	annual herb	1B.1	G1	S1	CE	FE	Mar-May	VFG, VP	Vernal pools and swales.	10-110 m	Unlikely

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Brodiaea leptandra	narrow-anthered brodiaea	perennial bulbiferous herb	1B.2	G3?	S3?	None	None	May-Jul	BUF, Ch, CW, LMCF, VFG	Volcanic	110-915 m	High
*Calamagrostis ophitidis**	serpentine reed grass	perennial herb	4.3	G3	S3	None	None	Apr-Jul	Ch, LMCF, MeSe, VFG	Rocky, Serpentinite	90-1065 m	Moderate
*Calandrinia breweri**	Brewer's calandrinia	annual herb	4.2	G4	S4	None	None	(Jan)Mar-Jun	Ch, CS	Burned areas, Disturbed areas, Loam (sometimes), Sandy (sometimes)	10-1220 m	High
*Calochortus uniflorus**	pink star-tulip	perennial bulbiferous herb	4.2	G4	S4	None	None	Apr-Jun	CP, CS, MeSe, NCCF	Seasonally moist meadows, sometimes within coastal scrub, or forested habitats. Usually at low elevations on the coast.	10-1070 m	Unlikely
*Calyptridium quadripetalum**	four-petaled pussypaws	annual herb	4.3	G4	S4	None	None	Apr-Jun	Ch, LMCF	Gravelly (sometimes), Sandy (sometimes), Serpentinite (usually)	315-2040 m	Moderate
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	perennial rhizomatous herb	4.2	G4T3	S3	None	None	Apr-Jun	Ch, LMCF, VFG	Serpentinite	279-1010 m	Unlikely
*Calystegia collina ssp. venusta**	South Coast Range morning-glory	perennial rhizomatous herb	4.3	G4T4	S4	None	None	Apr-Jun	Ch, CW, VFG	Serpentinite (sometimes)	270-1490 m	Moderate
*Castilleja ambigua var. ambigua**	johnny-nip	annual herb (hemiparasitic)	4.2	G4T4	S3S4	None	None	Mar-Aug	CBS, CP, CS, MS, VFG, VP		0-435 m	High
Ceanothus confusus	Rincon Ridge ceanothus	perennial evergreen shrub	1B.1	G1	S1	None	None	Feb-Jun	Ch, CW, CCCF	Serpentinite (sometimes), Volcanic (sometimes)	75-1065 m	High
Ceanothus divergens	Calistoga ceanothus	perennial evergreen shrub	1B.2	G2	S2	None	None	Feb-Apr	Ch	Rocky, serpentine or volcanic sites.	170-950 m	High
*Ceanothus gloriosus var. exaltatus**	glory brush	perennial evergreen shrub	4.3	G4T4	S4	None	None	Mar-Jun(Aug)	Ch		30-610 m	High
*Ceanothus pinetorum**	Kern ceanothus	perennial evergreen shrub	4.3	G3	S3	None	None	May-Jul	LMCF, SCF, UMCF	Granitic, Rocky	1040-2745 m	None
Ceanothus purpureus	holly-leaved ceanothus	perennial evergreen shrub	1B.2	G2	S2	None	None	Feb-Jun	Ch, CW	Rocky, Volcanic	120-640 m	High
Ceanothus sonomensis	Sonoma ceanothus	perennial evergreen shrub	1B.2	G2	S2	None	None	Feb-Apr	Ch	Sandy, serpentine or volcanic soils. 140-795 m.	215-800 m	High
Centromadia parryi ssp. parryi	pappose tarplant	annual herb	1B.2	G3T2	S2	None	None	May-Nov	Ch, CP, MS, MeSe, VFG	Alkaline (often)	0-420 m	Unlikely

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*Clarkia breweri**	Brewer's clarkia	annual herb	4.2	G4	S4	None	None	Apr-Jun	Ch, CW, CS	Serpentinite (often)	215-1115 m	Moderate
*Clarkia gracilis ssp. tracyi**	Tracy's clarkia	annual herb	4.2	G5T3	S3	None	None	Apr-Jul	Ch	Openings, usuallly on serpentine.	65-650 m	Unlikely
*Collomia diversifolia**	serpentine collomia	annual herb	4.3	G4	S4	None	None	May-Jun	Ch, CW	Gravelly (sometimes), Rocky (sometimes), Serpentinite (sometimes)	200-600 m	Moderate
*Cordylanthus tenuis ssp. brunneus**	serpentine bird's-beak	annual herb (hemiparasitic)	4.3	G4G5T3	S3	None	None	Jul-Aug	Ch, CW, CCCFst	Serpentinite (usually)	305-915 m	Moderate
Cryptantha dissita	serpentine cryptantha	annual herb	1B.2	G3	S3	None	None	Apr-Jun	Ch	Serpentine outcrops.	395-580 m	Unlikely
*Delphinium uliginosum**	swamp larkspur	perennial herb	4.2	G3	S3	None	None	May-Jun	Ch, VFG	Seeps, Serpentinite	340-610 m	Unlikely
Downingia pusilla	dwarf downingia	annual herb	2B.2	GU	S2	None	None	Mar-May	CFG, VP	Vernal lake and pool margins with a variety of associates. In several types of vernal pools.	1-445 m	Unlikely
*Erigeron biolettii**	streamside daisy	perennial herb	3	G3?	S3?	None	None	Jun-Oct	BUF, CW, NCCF	Mesic, Rocky	30-1100 m	High
Erigeron greenei	Greene's narrow-leaved daisy	perennial herb	1B.2	G3	S3	None	None	May-Sep	Ch	Serpentine and volcanic substrates, generally in shrubby vegetation.	80-1005 m	Moderate
Eriogonum nervulosum	Snow Mountain buckwheat	perennial rhizomatous herb	1B.2	G2	S2	None	None	Jun-Sep	Ch	Dry serpentine outcrops, balds, and barrens.	300-2105 m	Unlikely
*Eriogonum umbellatum var. bahiiforme**	bay buckwheat	perennial herb	4.2	G5T3	S3	None	None	Jul-Sep	CW, LMCF	Rocky, Serpentinite (often)	700-2200 m	None
Eryngium constancei	Loch Lomond button-celery	annual/perennial herb	1B.1	G1	S1	CE	FE	Apr-Jun	VP	Volcanic ash flow vernal pools.	460-855 m	Unlikely
Eryngium jepsonii	Jepson's coyote-thistle	perennial herb	1B.2	G2	S2	None	None	Apr-Aug	VFG, VP	Clay	3-300 m	High
*Erythranthe nudata**	bare monkeyflower	annual herb	4.3	G4	S4	None	None	May-Jun	Ch, CW	Seeps, Serpentinite	200-700 m	Moderate
*Erythronium helenae**	St. Helena fawn lily	perennial bulbiferous herb	4.2	G3	S3	None	None	Mar-May	Ch, CW, LMCF, VFG	Serpentinite (sometimes), Volcanic (sometimes)	350-1220 m	Moderate
Fritillaria liliacea	fragrant fritillary	perennial bulbiferous herb	1B.2	G2	S2	None	None	Feb-Apr	CW, CP, CS, VFG	Serpentinite (often)	3-410 m	Moderate
Fritillaria pluriflora	adobe-lily	perennial bulbiferous herb	1B.2	G2G3	S2S3	None	None	Feb-Apr	Ch, CW, VFG	Adobe (often)	60-705 m	Moderate

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*Fritillaria purdyi**	Purdy's fritillary	perennial bulbiferous herb	4.3	G4	S4	None	None	Mar-Jun	Ch, CW, LMCF	Serpentinite (usually)	175-2255 m	Moderate
Gratiola heterosepala	Boggs Lake hedge-hyssop	annual herb	1B.2	G2	S2	CE	None	Apr-Aug	MS, VP	Clay	10-2375 m	Unlikely
Harmonia hallii	Hall's harmonia	annual herb	1B.2	G2?	S2?	None	None	(Mar)Apr-Jun	Ch	Serpentine hills and ridges. Open, rocky areas within chaparral.	305-975 m	Moderate
*Harmonia nutans**	nodding harmonia	annual herb	4.3	G3	S3	None	None	Mar-May	Ch, CW	Gravelly (sometimes), Rocky (sometimes), Volcanic	75-975 m	High
*Helianthus exilis**	serpentine sunflower	annual herb	4.2	G3	S3	None	None	Jun-Nov	Ch, CW	Seeps, Serpentinite	150-1525 m	Unlikely
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	annual herb	1B.2	G5T2	S2	None	None	Apr-Nov	VFG	Roadsides (sometimes)	20-560 m	Moderate
Hesperolinon bicarpellatum	two-carpellate western flax	annual herb	1B.2	G2	S2	None	None	(Apr)May-Jul	Ch	Serpentine barrens at edge of chaparral. 175-825 m.	60-1005 m	Moderate
Hesperolinon sharsmithiae	Sharsmith's western flax	annual herb	1B.2	G2Q	S2	None	None	May-Jul	Ch	Serpentinite	270-300 m	Unlikely
*Horkelia parryi**	Parry's horkelia	perennial herb	1B.2	G2	S2	None	None	Apr-Sep	Ch, CW	Openings in chaparral or woodland; especially known from the Ione formation in Amador County	80-1070 m	Unlikely
*Hosackia gracilis**	harlequin lotus	perennial rhizomatous herb	4.2	G3G4	S3	None	None	Mar-Jul	BUF, CW, CCCF, CBS, CP, CS, MS, MeSe, NCCF, VFG	Roadsides	0-700 m	Unlikely
*Iris longipetala**	coast iris	perennial rhizomatous herb	4.2	G3	S3	None	None	Mar-May(Jun)	CP, LMCF, MeSe	Mesic	0-600 m	Moderate
Juncus luciensis	Santa Lucia dwarf rush	annual herb	1B.2	G3	S3	None	None	Apr-Jul	Ch, GBS, LMCF, MeSe, VP	Vernal pools, ephemeral drainages, wet meadow habitats and streamsides.	300-2040 m	Unlikely
Lasthenia burkei	Burke's goldfields	annual herb	1B.1	G1	S1	CE	FE	Apr-Jun	MeSe, VP	Most often in vernal pools and swales.	15-600 m	Unlikely
Layia septentrionalis	Colusa layia	annual herb	1B.2	G2	S2	None	None	Apr-May	Ch, CW, VFG	Sandy, Serpentinite	100-1095 m	Unlikely
*Leptosiphon acicularis**	bristly leptosiphon	annual herb	4.2	G4?	S4?	None	None	Apr-Jul	Ch, CW, CP, VFG	Grassy areas, woodland, chaparral.	55-1500 m	High
Leptosiphon jepsonii	Jepson's leptosiphon	annual herb	1B.2	G2G3	S2S3	None	None	Mar-May	Ch, CW, VFG	Volcanic (usually)	100-500 m	High
*Leptosiphon latisectus**	broad-lobed leptosiphon	annual herb	4.3	G4	S4	None	None	Apr-Jun	BUF, CW		170-1500 m	High

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*Lessingia hololeuca**	woolly-headed lessingia	annual herb	3	G2G3	S2S3	None	None	Jun-Oct	BUF, CS, LMCF, VFG	Clay, Serpentinite	15-305 m	High
*Lilium bolanderi**	Bolander's lily	perennial bulbiferous herb	4.2	G4	S3S4	None	None	Jun-Jul	Ch, LMCF	Serpentinite	30-1600 m	Unlikely
*Lilium rubescens**	redwood lily	perennial bulbiferous herb	4.2	G3	S3	None	None	Apr-Aug(Sep)	BUF, Ch, LMCF, NCCF, UMCF	Roadsides (sometimes), Serpentinite (sometimes)	30-1910 m	Moderate
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	annual herb	4.2	G4T4	S3	None	None	Mar-May(Jun)	Ch, CW, VFG, VP	Vernally Mesic	60-1335 m	Unlikely
Limnanthes vinculans	Sebastopol meadowfoam	annual herb	1B.1	G1	S1	CE	FE	Apr-May	MeSe, VFG, VP	Vernally Mesic	15-305 m	Unlikely
*Lomatium hooveri**	Hoover's lomatium	perennial herb	4.3	G3	S3	None	None	Apr-Jul	Ch, CW	Serpentinite, Volcanic (rarely)	300-885 m	Unlikely
*Lomatium repostum**	Napa lomatium	perennial herb	1B.2	G2G3	S2S3	None	None	Mar-Jun	Ch, CW	Serpentinite	90-1030 m	High
Lupinus sericatus	Cobb Mountain lupine	perennial herb	1B.2	G2?	S2?	None	None	Mar-Jun	BUF, Ch, CW, LMCF	In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine.	275-1525 m	High
Microseris paludosa	marsh microseris	perennial herb	1B.2	G2	S2	None	None	Apr-Jun(Jul)	CW, CCCF, CS, VFG		3-610 m	Moderate
*Monardella viridis**	green monardella	perennial rhizomatous herb	4.3	G3	S3	None	None	Jun-Sep	BUF, Ch, CW		100-1010 m	High
*Navarretia cotulifolia**	cotula navarretia	annual herb	4.2	G4	S4	None	None	May-Jun	Ch, CW, VFG	Adobe	4-1830 m	Moderate
*Navarretia heterandra**	Tehama navarretia	annual herb	4.3	G4	S4	None	None	Apr-Jun	VFG, VP	Mesic sites in grassland or vernal pools.	30-1010 m	Moderate
*Navarretia jepsonii**	Jepson's navarretia	annual herb	4.3	G4	S4	None	None	Apr-Jun	Ch, CW, VFG	Serpentinite	175-855 m	Unlikely
Navarretia leucocephala ssp. bakeri	Baker's navarretia	annual herb	1B.1	G4T2	S2	None	None	Apr-Jul	CW, LMCF, MeSe, VFG, VP	Mesic; Vernal pools and swales; adobe or alkaline soils.	5-1740 m	Unlikely
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	annual herb	1B.2	G4T1	S1	CE	FE	May-Jun	VP	Volcanic ash flow vernal pools.	30-950 m	Unlikely
Navarretia myersii ssp. deminuta	small pincushion navarretia	annual herb	1B.1	G2T1	S1	None	None	Apr-May	VP	Known from only one site in Lake County in vernal pool habitat on clay-loam soil; also in roadside depressions.	355 m	Unlikely

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Navarretia paradoxinota	Porter's navarretia	annual herb	1B.3	G2	S2	None	None	May-Jun(Jul)	MeSe	Serpentinite, openings, vernally mesic, often drainages.	165-840 m	Unlikely
Navarretia rosulata	Marin County navarretia	annual herb	1B.2	G2	S2	None	None	May-Jul	Ch, CCCF	Dry, open rocky places; can occur on serpentine.	200-635 m	Unlikely
Penstemon newberryi var. sonomensis	Sonoma beardtongue	perennial herb	1B.3	G4T3	S3	None	None	Apr-Aug	Ch	Crevices in rock outcrops and talus slopes.	700-1370 m	Moderate
Plagiobothrys strictus	Calistoga popcornflower	annual herb	1B.1	G1	S1	CT	FE	Mar-Jun	MeSe, VFG, VP	Alkaline sites near thermal springs and on margins of vernal pools in heavy, dark, adobe-like clay.	90-160 m	Unlikely
Poa napensis	Napa blue grass	perennial herb	1B.1	G1	S1	CE	FE	May-Aug	MeSe, VFG	Moist alkaline meadows fed by runoff from nearby hot springs.	100-200 m	Unlikely
Puccinellia simplex	California alkali grass	annual herb	1B.2	G3	S2	None	None	Mar-May	ChSc, MeSe, VFG, VP	Alkaline, vernally mesic. Sinks, flats, and lake margins.	2-930 m	Unlikely
*Ranunculus lobbii**	Lobb's aquatic buttercup	annual herb (aquatic)	4.2	G4	S3	None	None	Feb-May	CW, NCCF, VFG, VP	Mesic sites.	15-470 m	Unlikely
*Ribes victoris**	Victor's gooseberry	perennial deciduous shrub	4.3	G3G4	S3S4	None	None	Mar-Apr	BUF, Ch	Wooded slopes in shaded canyons.	100-750 m	Moderate
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	perennial herb	1B.1	G3T1	S1	None	None	Apr-Jun	Ch	Rhyolitic substrates.	415-610 m	Unlikely
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	perennial herb	1B.2	G5T2	S2	None	None	(Jun)Jul-Aug	MeSe, RF	Wet soil of streambanks, meadows.	1100-2300 m	Unlikely
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	perennial rhizomatous herb	1B.1	G5T1	S1	CE	FE	Jun-Sep	MS	Edges of freshwater marshes.	115-150 m	Unlikely
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	perennial herb	1B.2	G5T2	S2	None	None	Feb-May	MS, MeSe	Alkaline.	0-255 m	Unlikely
Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewelflower	perennial herb	1B.2	G2T1	S1	None	None	May-Jun	Ch, CCCF	Serpentine areas and serpentine chaparral.	545-1000 m	Unlikely
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	perennial herb	1B.2	G2T2	S2	None	None	May-Jul	Ch, CW	Serpentine rock outcrops, primarily in geothermal development areas.	490-1220 m	Unlikely
Streptanthus hesperidis	green jewelflower	annual herb	1B.2	G2G3	S2S3	None	None	May-Jul	Ch, CW	Openings in chaparral or woodland; serpentine, rocky sites.	130-760 m	High
Streptanthus morrisonii ssp. elatus	Three Peaks jewelflower	perennial herb	1B.2	G2T1	S1	None	None	Jun-Sep	Ch	Serpentine barrens, outcrops, and talus.	90-815 m	Unlikely

BUF = broadleafed upland forest
CBS = coastal bluff scrub
CCCF = closed-cone coniferous forest
Ch = chaparral
ChSc = chenopod scrub
CP = coastal prairie

CS =coastal scrub
CW = cismontane woodland
GBS = Great Basin scrub
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MeSe = meadows & seeps
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RS = riparian scrub
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UMCF = upper montane coniferous forest
VFG = valley and foothill grassland
VP = vernal pools

Scientific Name	Common Name	Lifeform	CRPR[2]	GRank[3]	SRank[4]	CESA[5]	FESA[6]	Blooming Period	Habitat	Micro Habitat	Elevational Range (m)	Potential Habitat?
Streptanthus vernalis	early jewelflower	annual herb	1B.2	G1	S1	None	None	Mar-May	Ch, CCCF	On serpentine.	610 m	Unlikely
Stuckenia filiformis ssp. alpina	northern slender pondweed	perennial rhizomatous herb (aquatic)	2B.2	G5T5	S2S3	None	None	May-Jul	MS	Shallow, clear water of lakes and drainage channels.	300-2150 m	Unlikely
*Toxicoscordion fontanum**	marsh zigadenus	perennial bulbiferous herb	4.2	G3	S3	None	None	Apr-Jul	Ch, CW, LMCF, MS, MeSe	Vernally moist or marshy areas; often on serpentine areas.	15-1000 m	Unlikely
Trichostema ruygtii	Napa bluecurls	annual herb	1B.2	G1G2	S1S2	None	None	Jun-Oct	Ch, CW, LMCF, VFG, VP	Often in open, sunny areas. Also has been found in vernal pools.	30-680 m	High
Trifolium amoenum	two-fork clover	annual herb	1B.1	G1	S1	None	FE	Apr-Jun	CBS, VFG	Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face.	5-415 m	High
Trifolium buckwestiorum	Santa Cruz clover	annual herb	1B.1	G2	S2	None	None	Apr-Oct	BUF, CW, CP	Moist grassland. Gravelly margins.	105-610 m	Moderate
Trifolium hydrophilum	saline clover	annual herb	1B.2	G2	S2	None	None	Apr-Jun	MS, VFG, VP	Mesic, alkaline sites.	0-300 m	Unlikely
Triquetrella californica	coastal triquetrella	moss	1B.2	G2	S2	None	None		CBS, CS	Grows within 30m from the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, rocky slopes, and fields. On gravel or thin soil over outcrops.	10-100 m	None
Triteleia lugens*	**coast range triplet lily**	**perennial bulbiferous herb**	**4.3**	**G4?**	**S4?**	**None**	**None**	**Apr-Jun**	**BUF, Ch, CS, LMCF**		**100-1000 m**	**Present within Project Area**
Viburnum ellipticum	oval-leaved viburnum	perennial deciduous shrub	2B.3	G4G5	S3?	None	None	May-Jun	Ch, CW, LMCF		215-1400 m	High

[1]March 2022 CNDDB, CNPS, Calistoga, Detert Resevoir, Aetna Springs, St. Helena, Rutherford, Kenwood, Santa Rosa, Mark West Springs, Mount St. Helena USGS 7.5' Quadrangle Maps and USFWS
[2]CRPR = California Rare Plant Ranking
[3]NatureServe Global Ranking
[4]NatureServe State Ranking
[5]CE = California Endangered, CT = California Threatened, CR = California Rare
[6]FE = Federally Endangered
*CNPS List Only

BUF = broadleafed upland forest
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Attachment #3 - Plants Identified

Plants Observed During 2022 Surveys

Scientific Name	**Common Name**	**Family**	**CRPR**	**Origin**
Sambucus nigra ssp. caerulea	blue elderberry	ADOXACEAE		Native
Chlorogalum pomeridianum var. pomeridianum	soap plant	AGAVACEAE		Native
Toxicodendron diversilobum	poisonoak	ANACARDIACEAE		Native
Daucus carota	Queen Anne's lace	APIACEAE		Non-Native
Sanicula laciniata	coast sanicle	APIACEAE		Native
Torilis arvensis	tall sock destroyer	APIACEAE		Non-Native
Hedera helix	English ivy	ARALIACEAE		Non-Native
Aristolochia californica	pipe vine	ARISTOLOCHIACEAE		Native
Achyrachaena mollis	blow wives	ASTERACEAE		Native
Agoseris heterophylla var. heterophylla	annual agoseris	ASTERACEAE		Native
Agoseris retrorsa	spear-leaved dandelion	ASTERACEAE		Native
Anisocarpus madiodes	woodland madia	ASTERACEAE		Native
Baccharis pilularis ssp. consanguinea	coyote brush	ASTERACEAE		Native
Calendula arvensis	field marigold	ASTERACEAE		Non-Native
Chamomilla suaveolens	pineapple weed	ASTERACEAE		Native
Cirsium vulgare	bull thistle	ASTERACEAE		Non-Native
Dittrichia graveolens	stink wort	ASTERACEAE		Non-Native
Erigeron bonariensis	flax-leaved horseweed	ASTERACEAE		Non-Native
Erigeron canadensis	horseweed	ASTERACEAE		Native
Eriophyllum lanatum var. achilloides	yarrow-leaved sunflower	ASTERACEAE		Native
Eurybia radulina	roughleaf aster	ASTERACEAE		Native
Helminthotheca echioides	Bristly ox-tongue	ASTERACEAE		Non-Native
Lactuca serriola	prickly lettuce	ASTERACEAE		Non-Native
Leontodon saxatilis ssp. saxatilis	hawkbit	ASTERACEAE		Non-Native
Logfia filaginoides	California cottonrose	ASTERACEAE		Native
Madia gracilis	slender tarweed	ASTERACEAE		Native
Micropus californicus var. californicus	q-tips	ASTERACEAE		Native
Pseudognaphalium californicum	ladies tobacco	ASTERACEAE		Native
Pseudognaphalium luteoalbum	Jersey cudweed	ASTERACEAE		Non-Native
Pseudognaphalium microcephalum	Wright's cudweed	ASTERACEAE		Native
Pseudognaphalium thermale	small-headed cudweed	ASTERACEAE		Native
Senecio aronicoides	butterweed	ASTERACEAE		Native
Silybum marianum	milkthistle	ASTERACEAE		Non-Native
Sonchus asper ssp. asper	prickly sow thistle	ASTERACEAE		Non-Native
Sonchus oleraceus	common sow thistle	ASTERACEAE		Non-Native
Stephanomeria sp.	wire lettuce	ASTERACEAE		Native
Tragopogon sp.	goat's beard	ASTERACEAE		Non-Native
Wyethia angustifolia	narrow-leaved mule ears	ASTERACEAE		Native
Corylus cornuta var. californica	California hazelnut	BETULACEAE		Native
Cryptantha muricata	prickly popcorn flower	BORAGINACEAE		Native
Barbarea vulgaris	rocket	BRASSICACEAE		Non-Native
Brassica nigra	black mustard	BRASSICACEAE		Non-Native
Capsella bursa-pastoris	shepherd's purse	BRASSICACEAE		Non-Native
Cardamine hirsuta	hairy bittercress	BRASSICACEAE		Non-Native
Raphanus raphanistrum	jointed charlock	BRASSICACEAE		Non-Native

Sisymbrium sp.	hedge mustard	BRASSICACEAE		Native
Lonicera hispidula var. vacillans	hairy honeysuckle	CAPRIFOLIACEAE		Native
Cerastium sp.	chickweed	CARYOPHYLLACEAE		Non-Native
Spergularia sp.	sand spurry	CARYOPHYLLACEAE		Native
Stellaria sp.	chickweed	CARYOPHYLLACEAE		Non-Native
Crocanthemum scoparium var. scoparium	peak rushrose	CISTACEAE		Native
Calystegia collina ssp. collina	hillside morning glory	CONVOLVULACEAE		Native
Calystegia purpurata ssp. purpurata	smooth western morning glory	CONVULVACEAE		Native
Sequoia sempervirens	coast redwood	CUPRESSACEAE		Native
Pteridium aquilinum var. pubescens	western bracken fern	DENNSTAEDTIACEAE		Native
Arbutus menziesii	madrone	ERICACEAE		Native
Arctostaphylos canescens	hoary manzanita	ERICACEAE		Native
Arctostaphylos glandulosa ssp. glandulosa	Eastwood manzanita	ERICACEAE		Native
Arctostaphylos manzanita var. glaucescens	common manzanita	ERICACEAE		Native
Croton setiger	turkey mullein	EUPHORBIACEAE		Native
Euphorbia oblongata	eggleaf spurge	EUPHORBIACEAE		Non-Native
Acmispon americanus var. americanus	Spanish lotus	FABACEAE		Native
Acmispon glaber	deerweed	FABACEAE		Native
Acmispon grandiflorus var. grandiflorus	chaparral lotus	FABACEAE		Native
Acmispon parviflorus	rose-flowered lotus	FABACEAE		Native
Acmispon wrangelianus	Chilean trefoil	FABACEAE		Native
Genista monspessulana	French broom	FABACEAE		Non-Native
Lathyrus polyphyllus	Oregon pea	FABACEAE		Native
Lathyrus vestitus var. ochropetalus	wood pea	FABACEAE		Native
Lupinus nanus	sky lupine	FABACEAE		Native
Medicago polymorpha	bur clover	FABACEAE		Non-Native
Melilotus spp.	sweet clover	FABACEAE		Non-Native
Trifolium hirtum	rose clover	FABACEAE		Non-Native
Trifolium wildenovii	Tomcat clover	FABACEAE		Native
Vicia sativa ssp. sativa	common vetch	FABACEAE		Non-Native
Notholithocarpus densiflorus var. densiflorus	tanoak	FAGACEAE		Native
Quercus agrifolia var. agrifolia	coast live oak	FAGACEAE		Native
Quercus berberedifolia	scrub oak	FAGACEAE		Native
Quercus kelloggii	black oak	FAGACEAE		Native
Quercus wislizenii var. frutescens	Interior live oak	FAGACEAE		Native
Erodium botrys	big heron bill	GERANIACEAE		Non-Native
Erodium cicutarium	coastal heron's bill	GERANIACEAE		Non-Native
Geranium molle	dovefoot geranium	GERANIACEAE		Non-Native
Geranium purpureum	Herb Robert	GERANIACEAE		Non-Native
Hypericum concinnum	gold wire	HYPERICACEAE		Native
Iris macrosiphon	bowl-tubed iris	IRIDACEAE		Native
Sisyrinchium bellum	blue-eyed grass	IRIDACEAE		Native
Juglans californica	Southern California black walnut	JUGLANDACAE		Native

Juncus sp.	rush	JUNCACEAE		Native
Lamium purpureum	purple dead nettle	LAMIACEAE		Non-Native
Monardella villosa ssp. franciscana	San Francisco coyote mint	LAMIACEAE		Native
Stachys ajugoides var. rigida	hedge nettle	LAMIACEAE		Native
Stachys mexicana	Mexican hedge nettle	LAMIACEAE		Native
Umbellularia californica	laurel	LAURACEAE		Native
Calochortus amabilis	golden fairy lantern	LILIACEAE		Native
Calochortus elegans	elegant star tulip	LILIACEAE		Native
Prosartes hookeri	drops of gold	LILIACEAE		Native
Malva neglecta	cheese weed	MALVACEAE		Non-Native
Malva nicaeensis	bull mallow	MALVACEAE		Non-Native
Malva parviflora	cheeseweed mallow	MALVACEAE		Non-Native
Calandrinia menziesii	Calandrinia	MONTIACEAE		Native
Claytonia perfoliata ssp. perfoliata	miner's lettuce	MONTIACEAE		Native
Olea europaea	olive	OLEACEAE		Non-Native
Epilobium brachycarpum	panicled willowherb	ONAGRACEAE		Native
Epilobium ciliatum ssp. glandulosum	glandular willow herb	ONAGRACEAE		Native
Cordylanthus sp.	bird's beak	OROBANCHACEAE		Native
Diplacus aurantiacus	orange monkey bush	PHRYMACEAE		Native
Pinus attenuata	knobcone pine	PINACEAE		Native
Pseudotsuga menziesii	Douglas-fir	PINACEAE		Native
Kickxia fluellen	sharp leaved fluellen	PLANTAGINACEAE		Non-Native
Plantago lanceolata	English plantain	PLANTAGINACEAE		Non-Native
Aira caryophyllea	silver European hairgrass	POACEAE		Non-Native
Aira elegans	elegant hairgrass	POACEAE		Non-Native
Avena fatua	wild oat grass	POACEAE		Non-Native
Avena sativa	wild oats	POACEAE		Non-Native
Bromus carinatus var. carinatus	California brome	POACEAE		Native
Bromus catharticus var. elatus	rescue grass	POACEAE		Non-Native
Bromus diandrus	ripgut grass	POACEAE		Non-Native
Bromus hordeaceus	soft chess	POACEAE		Non-Native
Bromus madritensis ssp. rubens	foxtail broom	POACEAE		Non-Native
Bromus sterilis	poverty brome	POACEAE		Non-Native
Bromus tectorum	cheat grass	POACEAE		Non-Native
Cynosurus echinatus	hedgehog grass	POACEAE		Non-Native
Dactylis glomerata	orchard grass	POACEAE		Non-Native
Elymus caput-medusae	Medusa head	POACEAE		Non-Native
Elymus glaucus ssp. glaucus	wild rye	POACEAE		Native
Festuca myuros	rattail grass	POACEAE		Non-Native
Festuca octoflora	sixweeks grass	POACEAE		Native
Festuca perennis	Italian rye grass	POACEAE		Non-Native
Festuca temulenta	darnel	POACEAE		Non-Native
Hordeum brachyantherum ssp. californicum	meadow barley	POACEAE		Native
Hordeum murinum	summer barley	POACEAE		Non-Native
Hordeum vulgare	barley	POACEAE		Non-Native
Melica harfordii	Harford's melic	POACEAE		Native
Melica imperfecta	coast melic	POACEAE		Native
Melica subulata	Alaska melic	POACEAE		Native
Panicum acuminatum	western witch grass	POACEAE		Native
Pennisetum sp.	fountaingrass	POACEAE		Non-Native

Poa secunda	pine bluegrass	POACEAE		Native
Polypogon monspeliensis	rabbitsfoot grass	POACEAE		Non-Native
Rytidosperma penicillatum	pilose grass	POACEAE		Non-Native
Alectoria sarmentosa	witches hair lichen	PARMELIACEAE		Native
Hypogymnia heterophylla	tube lichen	PARMELIACEAE		Native
Hypogymnia inactiva	inactive tube lichen	PARMELIACEAE		Native
Parmotrema crinitum	salted ruffle lichen	PARMELIACEAE		Native
Ramalina farinaceae	farinose cartilage lichen	PARMELIACEAE		Native
Usnea dasopoga	fishbone lichen	PARMELIACEAE		Native
Usnea scabrata	straw lichen	PARMELIACEAE		Native
Polygala californica	California milkwort	POLYGALACEAE		Native
Polygonum aviculare	knotweed	POLYGONACEAE		Non-Native
Rumex acetosella	sheep sorrel	POLYGONACEAE		Non-Native
Rumex crispus	curly dock	POLYGONACEAE		Non-Native
Pellaea mucronata	birdfoot fern	PTERIDACEAE		Native
Ceanothus cuneatus var. cuneatus	buckbrush	RHAMNACEAE		Native
Ceanothus dentatus	dwarf ceanothus	RHAMNACEAE		Native
Ceanothus parryi	parry ceanothus	RHAMNACEAE		Native
Ceanothus prostratus var. prostratus	Mahala mat	RHAMNACEAE		Native
Frangula californica ssp. californica	California coffeeberry	RHAMNACEAE		Native
Adenostoma fasciculatum	chemise	ROSACEAE		Native
Cotoneaster sp.	cotoneaster	ROSACEAE		Non-Native
Heteromeles arbutifolia	toyon	ROSACEAE		Native
Rosa californica	California wild rose	ROSACEAE		Native
Rosa gymnocarpa	wood rose	ROSACEAE		Native
Galium aparine	cleavers	RUBIACEAE		Non-Native
Galium californicum var. californicum	California bedstraw	RUBIACEAE		Native
Galium divaricatum	Lamarck's bedstraw	RUBIACEAE		Non-Native
Acer macrophyllum	bigleaf maple	SAPINDACEAE		Native
Verbascum thapsus	woolly mullein	SCROPHULARIACEAE		Non-Native
Datura wrightii	jimsonweed	SOLANACEAE		Native
Solanum americanum	small-flowered solanum	SOLANACEAE		Native
Dipterostemon capitatum ssp. capitatum	blue dicks	THEMIDACEAE		Native
Triteleia laxa	Ithuriel's spear	THEMIDACEAE		Native
Triteleia lugens	coast range triplet lily	THEMIDACEAE	4.3	Native
Vitis californica	wild grape	VITACEAE		Native
Vitis vinifera	cultivated grape	VITACEAE		Non-Native

Attachment #4

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Taxon: Birds						
Accipiter cooperii (Cooper's Hawk)		WL	Patchy woodlands and edges with snags for perching. Dense stands with moderate crown-depths.	Nesting: Usually in second-growth conifer stands or deciduous riparian areas near stream.	Habitat Present.	Moderate to low potential for nesting. May be too far from riparian areas for nesting
Accipiter straitus (Sharp-Shinned Hawk)		WL	Dense forested stands in close proximity to open areas.	Nesting: Usually in dense, pole and small-tree stands of conifers, which are cool, moist, well shaded, close to water.	Habitat Present. Cnddb lists occurrances within 5-mile	Moderate to low potential for nesting. May be too far from riparian areas for nesting
Agelaius tricolor (Tricolored Blackbird)		ST	Highly colonial species in freshwater marshes, swamps, and wetlands.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Unlikely due to lack of large enough wetlands	Unlikely due to large enough wetlands
Agelaius phoeniceus aciculatus (Kern Red-Winged Blackbird)		SSC	Marshes, brushy swamps, hayfields near water.	May forage in cultivated land or along water edges	This Project is outside the listed subspecies range	None. Outside known range
Aimophila ruficeps obscura (Rufous-Crowned Sparrow)		SSC	Grassy or rocky slopes with sparse low bushes, open pine-oak woodlands.		This Project is outside the listed subspecies range	None. Outside known range
Ammodramus savannarum (Grasshopper Sparrow)		SSC	Summer Resident - March - September. Short to middle-height, moderately open grasslands with scattered shrubs.	Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Unlikely due to lack of grassland. Open areas are cultivated	Unlikely due to lack of grassland. Open areas are cultivated decreasing habitat suitability
Anser albifrons elgasi (Tule Greater White-Fronted Goose)		SSC	Wintering Range	Marshes, prairies, fields, lakes, and bays.	This Project is outside the listed subspecies range	None. Outside known range
Aquila chrysaetos (Golden Eagle)		FP/WL	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Nests on cliffs of all heights and in large trees in open areas. Build large platform nests (often 10' across and 3' high)	Unlikely as open areas are cultivated and lack of cliffs for nesting	Unlikely due to lack of open areas. Open areas are cultivated decreasing habitat suitability. No cliffs for nesting

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Ardea alba (Great Egret)		Sensitive	Groves of trees suitable for nesting and roosting, relatively isolated from human activities, near aquatic foraging areas.	Colony nester usually near water in large trees. Feeds in shallow water and along shores of estuaries, lakes, ditches, and slow-moving streams and in irrigated cropland and pastures.	Unlikely nesting due to lack of large trees near water source. Maybe found foraging in ditches along vineyard rows	Unlikely nesting due to lack of large trees near water source. Maybe found foraging or flying over property
Ardea herodias (Great Blue Heron)		Sensitive	Perch and roost in secluded tall trees isolated from human activities, near aquatic foraging areas.	Colony nester usually near water in large snags or live trees. Tallest trees used near shallow-water feeding areas.	Unlikely nesting due to lack of large trees near water source. Maybe found foraging in ditches along vineyard rows	Unlikely nesting due to lack of large trees near water source. Maybe found foraging or flying over property
Artemisiospiza belli belli (Bell's Sage Sparrow)		WL	Dry brushy foothills, chaparral and sage		This Project is outside the listed subspecies range	None. Outside known range
Asio flammeus (Short-Eared Owl)		SSC	Open treeless areas with elevated sites for perches and dense vegetation for roosting and nesting.	Nests on dry ground in depression concealed in vegetation. Dense vegetation, tall grass, brush, ditches, and wetlands	Unlikely as open areas are cultivated	Unlikely. Lack of open areas that are not cultivated
Asio otus (Long-Eared Owl)		SSC	Dense, riparian and live oak thickets near meadow edges, and nearby woodlands and forest habitats. Dense conifer stands at high elevations.	Nests in riparian or other thickets with small, densely canopied trees. Often congregates in flocks or family groups.	Unlikely due to lack of riparian thickets	Unlikely due to lack of riparian thickets
Athene cunicularia (Burrowing Owl)		SSC	Grasslands and shrublands with perches and burrows.	Nests in old burrow of ground squirrel or other small mammal. Pipes, culverts, and nest boxes used where burrows scarce. Semicolonial	Unlikely due to lack of grassland and shrubland. Open areas are cultivated	Unlikely due to lack of open areas. Open areas are cultivated decreasing habitat suitability
Aythya americana (Redhead)		SSC	Lacustrine waters - large lakes with extensive areas of emergent vegetation.	Nests in fresh emergent wetlands near open water.	Unlikely due to lack of wetlands and open water	Unlikely due to lack of wetlands and open water

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Brachyramphis marmoratus (Marbled Murrelet)	FT	SE	Occurs year-round in marine subtidal and pelagic habitats from Oregon border to Point Sal, Santa Barbara County. Partial to coastlines with stands of mature redwood and Douglas-fir, using these trees for nesting.	Nesting occurs often 4-5 miles inland. Requires dense, mature forest of redwood or Douglas-fir. Prefers to nests in tall trees with nests made of moss and lichen. Require larger horizontal limbs for nest sites.	This Project is outside the species nesting range	None. Outside known nesting range
Bucephala islandica (Barrow's Goldeneye)		SSC	Estuarine (lagoons and bays), brackish lacustrine waters.	Shelters in open water.	Winter Range. Unlikely due to lack of open water	Unlikely due to lack of open water, estuarine or brackish lacustrine waters
Buteo swainsoni (Swainson's Hawk)		ST	Open desert, grassland, or cropland containing scattered, large trees or small groves.	Nests in open riparian habitat, in scattered trees or small groves in sparsely vegetated areas.	Unlikely as foraging areas are lacking with croplands being primarily vineyards	Unlikely as foraging areas are lacking with croplands being vineyards or urbanized
Callipepla californica catalinensis (Catalina California Quail)		SSC	Shrub, scrub, brushy, and open stages of conifer and deciduous habitats. Also along margins of grassland and cropland.		This Project is outside the listed subspecies range	None. Outside known range
Chaetura vauxi (Vaux's Swift)		SSC	Forages over most terrains and habitats, often high in the air. Roosts often in flocks	Most Important habitat requirement is appropriate nest-sites in a large, hollow tree. Nests in redwood, Douglas-fir typically built on vertical inner wall of large, hollow tree or snag, especially tall stubs charred by fire.	Habitat present	Moderate potential to occur. Habitat present.
Charadrius nivosus nivosus (Western Snowy Plover)	FT	SSC	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	Unlikely due to lack of suitable habitat	Unlikely due to lack of suitable habitat
Charadrius montanus (Mountain Plover)		SSC	Short-grass prairie habitats or their equivalent. Flat and nearly devoid of vegetation	Fallow, grazed or burned sites.	This Project is outside the listed species range	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Circus hudsonius (Northern Harrier)		SSC	Flat, hummocky open areas of tall dense grasses; moist or dry shrubs; and edges.	Nests on ground in shrubby vegetation, usually at marsh edge. Most nest in emergent wetland or along rivers or lakes, but may nest in grassland, grain fields, or on sagebrush flats.	Unlikely due to lack of open areas or suitable nesting habitat	Unlikely due to lack of open areas (open areas cultivated) and no suitable nesting habitat
Cistothorus palustris clarkae (Clark's Marsh Wren)		SSC		Cattails, bullrushes, or sedges in emergent vegetation	This Project is outside the listed subspecies range	None. Outside known range
Contopus cooperi (Olive-Sided Flycatcher)		SSC	Montane conifer forests where tall trees overlook canyons, meadows, lakes or open terrain.	High perches. Tall trees for nesting and roosting sites	Habitat present	Moderate. Cultivated open areas may decrease habitat suitability
Coturnicops noveboracensis (Yellow Rail)		SSC	Densely vegetated marshes. Sedge marshes, meadows with moist soil or shallow standing water.	In winter, inhabit wet meadows and coastal tidal marshes.	Range unknown. Project may be outside known range	Unlikely as may be outside known range and lacking suitable habitat
Elanus leucurus (White-Tailed Kite)		FP	Herbaceous lowlands with variable tree growth and dense vole populations	Dense, broad-leafed deciduous trees used for nesting and roosting	Marginal habitat present within BREA. Cultivated open areas decrease habitat suitability.	Unlikely as open cultivated areas decrease habitat suitability and potenital prey source
Falco peregrinus anatum (American Peregrine Falcon)	Delisted	FP	Breeds near wetlands, lakes, rivers or other water on high cliffs, banks dunes, mounds.	Protected cliffs and ledges	Habitat Present. Cnddb lists occurrances within BREA	Unlikely due to lack of cliffs and ledges for nesting
Gavia immer (Common Loon)		SSC	Aquatic Habitat	Require 60' open water for running take-off. Like deep water for diving cover.	Winter Range Only	None due to lack of open water
Geothlypis trichas sinuosa (Saltmarsh or SF Common Yellowthroat)		SSC	Napa sloughs and southern Sonoma County. Wetlands and riparian forests.	Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Marginal habitat present within BREA.	Unlikely due to lack of wetlands and riparian forests
Gymnogyps californianus (California Condor)	FE	SE	Semi-arid, rugged mountain ranges. Forages over wide areas of open rangelands, roosts on cliffs and in large trees/snags.	Scavenger. Roosting sites are ledges or cavities on cliffs. Also uses large Douglas-fir, ponderosa pine, and snags.	Project is Outside this species range	None. Outside range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Haliaeetus leucocephalus (Bald Eagle)	Delisted	SE	Large, stoutly limbed trees or snags near water	Large, old-growth trees or snags in remote mixed stands near water	Unlikely due to lack of foraging sites	Unlikely due to lack of foraging sites
Icteria virens (Yellow-Breasted Chat)		SSC	Early successional riparian woodlands with shrubs and open canopy	Dense brushy thickets near water used for nesting	This Project is outside this listed species range	None. Outside known range
Lanius ludovicianus mearnsi (San Clemente Loggerhead Shrike)	FE	SSC	Western juniper woodlands, chaparral, oak woodland or oak savannah, coastal shrub, and riparian areas.	Tall shrubs or trees for perches/nests, open areas for hunting, impaling sites for prey storage.	This Project is outside the listed subspecies range	None. Outside known range
Laterallus jamaicensis coturniculus (California Black Rail)		ST	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Habitat not present	None. Habitat not present
Melospiza melodia graminea (Song Sparrow)		SSC	Subspecies of Channel Island, Suisun, Alamedia, San Pablo, and Modesto.	Breeds in dense riparian thickets, emergent vegetation or dense thickets in other moist areas.	This Project is outside the listed subspecies range	None. Outside known range
Melozone crissalis eremophilus (Inyo California Towhee)	FT	SE		Brushy, stony areas, open chaparral, open woods, canyons, pinyon and Juniper	This Project is outside the listed subspecies range	None. Outside known range
Pandion haliaetus (Osprey)		WL	Rivers, lakes, reservoirs, bays, estuaries and surf zones with large trees to nest	Large trees, snags, and dead-topped trees in open forest habitats near fish bearing waters	Unlikely as lacking suitable foraging habitat	Unlikely as lacking suitable foraging habitat
Passerculus sandwichensis beldingi (Belding Savannah Sparrow)		SE	Tidal marshes, grasslands, weedy spoil areas, canal banks, and bottomland pastures.	Tidal marshes and grasslands in coastal fog belt. In Pickleweed and saltgrass and adjacent to salt marshes.	This Project is outside the listed subspecies range	None. Outside known range
Pelecanus erythrorhynsho (American White Pelican)		SSC	Nests in large lakes in Klamath Basin	Nests in large fresh or salt water lakes. Napa within winter range where feed on fish primarily in lakes	This Project is outside the listed breeding range	None. Outside known breeding range. Lacking suitable winter foraging sites
Pipilo maculatus clementae (San Clemente Spotted Towhee)	BCC	SSC	Chaparral, shrub habitats in open stands of riparian, hardwood, hardwood-conifer, and low elevation conifer forests		This Project is outside the listed subspecies range	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Pooecetes gramineus affinis (Oregon Vesper Sparrow)		SSC	Open stands sagebrush, low sagebrush or similar habitat		This Project is outside the listed subspecies range	None. Outside known range
Progne subis (Purple Martin)		SSC	Valley foothills and montane hardwood, montane hardwood/conifer and riparian habitats. Coniferous forests	Often prefer tall isolated tree or snag in open forest. Nests in snag or cavity tree, nesting box, under bridge or in culvert.	Habitat present within BREA. Cnddb has occurrances within 5-mile of project	Moderate habitat present
Riparia riparia (Bank Swallow)		ST		Uses holes dug in cliffs and river banks.	This Project is outside this listed species range	None. Outside known range
Setophaga petechia (Yellow Warbler)		SSC	Riparian habitat in willows or cottonwoods.	Riparian vegetation close to water along streams and in wet meadows	Unlikely as willow or cottonwood habitat is lacking in BREA	Unlikely as willow or cottonwood is lacking
Strix nebulosa (Great Gray Owl)		SE	Generally 4,500 - 7,500' in elevation. Breeds in old-growth or second growth with old-growth characteristics of red fir, mixed conifer, or lodgepole pine habitats, near wet meadows.	Use dense forest stands for roosting. Nests in large, broken topped snags often in old hawk or eagle nest. Forages in wet meadows.	This Project is outside the known range	None. Outside known range
Strix occidentalis caurina (Northern Spotted Owl)	FT	ST	Requires large blocks of forest with permanent water and suitable nesting sites	Narrow, steep-sided canyons. Nest in snags or large trees with debris structure or broken top	Habitat present within BREA. Cnddb has occurrances within 5-mile of project	Moderate habitat present with habitat suitability decreased due to wildfire
Thryomanes bewickii leucophrys (San Clemente Bewick's Wren)		SSC	Limited to San Clemente Island	Thickets, underbrush, gardens, and bird boxes	This Project is outside the listed subspecies range	None. Outside known range
Vireo huttoni unitti (Catalina Hutton's Vireo)		SSC	Limited to Santa Cataline Island	Woods and adjacent brush oak woodlands	This Project is outside the listed subspecies range	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Xanthocephalus xanthocephalis (Yellow-Headed Blackbird)		SSC	Nests in fresh emergent wetlands with dense vegetation and deep water. Forages in emergent wetlands and moist open areas croplands and muddy shores of lacustrine habitat	Nests in colonies	This Project is outside the listed species range	None. Outside known range
Taxon: Mammals						
Antrozous pallidus (Pallid Bat)		SSC	Open dry habitats of grasslands, shrublands, woodlands, and forests.	Roosts are in rocky outcrops, cliffs, crevices, snags, bole cavities of oaks, and basal hollows of conifers with access to open habitats for foraging. Roost in groups.	Habitat present. Cnddb has occurrances within BREA and 5-mile assessment area	Moderate habitat present
Bassariscus astutus (Ringtail)		FP	Mixture of forest and shrubland in close association with rocky areas or riparian habitats.	Hollow trees, logs, snags, cavities in talus and other rocky areas used for cover. Nests in rock recesses, hollow trees, logs, snags, abandoned burros, or woodrat nests.	Habitat present	Moderate habitat present
Canis lupus (Gray Wolf)	Delisted	SE	Found in a wide variety of habitats from deserts and prairies to woodlands, swamps, tundra, and barren lands.	Habitat use depends on prey availability. Since the reintroduction of wolves to the west, there have been no known wolves in Sonoma or Napa County, nor are these counties listed as potentially suitable for wolves.	Unlikely. No known wolves in Napa Valley	Unlikely. Fences, businesses, residential houses and no known wolves in Napa County
Corynorhinus townsendii (Townsend's Big-Eared Bat)		SSC	Prefers mesic habitats, but found in all but subalpine and alpine habitats.	Requires caves, mines, tunnels, buildings, or chimney trees. Extremely sensitive to human disturbance.	Habitat present. Cnddb has occurrances within BREA and 5-mile assessment area	Moderate habitat present
Dipodomys californicus eximius (Marysville California Kangaroo Rat)		SSC	Chaparral and scrub oak of Sutter Buttes in Sutter County only		This Project is outside this listed subspecies range	None. Outside known range
Lasiurus frantzii (Western Red Bat)		SSC	Roosts in trees often along edge adjacent to streams, fields or urban areas	Family Groups roost together. Habitat mosaics	Habitat present	Moderate habitat present

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Lepus californicus bennettii (San Diego Black-Tailed Jackrabbit)	FT	SE	Populations in South Santa Barbara County, south on coastal slope to the vicinity of San Quintin, Baja California, Mexico. Locations on eastern edge of range include Jacumba and San Felipe Valley in San Diego County		This Project is outside this listed subspecies range	None. Outside known range
Microtus californicus spp. (Subspecies of California Vole)		SSC	Populations of Moneray, Mohave River, San Pablo, Amargosa, south coast marsh, and Owen's Valley.		This Project is outside this listed subspecies range	None. Outside known range
Myotis evotis (Long-Eared Myotis)	WBWG:M		All brush, woodland, and forest habitats from sea level to 9,000'. Coniferous woodlands and forests are preferred.	Forages among trees, over water, and over shrubs. Roosts in buildings, crevices, spaces under bark, and snags. Caves are primarily used as night roosts.	Habitat present	Moderate habitat present
Myotis thysanodes (Fringed Myotis)	WBWG:H		Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, at 4000 - 7000'	Maternity colonies of up to 200 individuals are located in caves, mones, buildings, or crevices. Forage in early successional stages, along streams, lakes, and ponds.	Unlikely due to elevational requirements	Unlikely due to elevational requirements
Neotoma fuscipes annectens (San Francisco Dusky Footed woodrat)		SSC	Forest habitat of moderate canopy and moderate to dense understory. Absent from grassland and cropland.		This Project is outside this listed subspecies range	None. Outside known range
Pekania pennanti (Fisher)		SSC	Intermediate to large-tree stages of coniferous forests and deciduous riparian habitats with a high percent of canopy closure.		This Project may be outside this species range. The 2020 Glass wildfire would have degraded any potential habitat within the BREA	Unlikley as the project may be outside this species range and the 2020 Glass wildfire degraded any potential habitat within the study area.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Puma concolor browni (Yuma Mountain Lion)		SSC	Imperial County only		This Project is outside this listed subspecies range	None. Outside known range
Reithrodontomys raviventris (Salt-Marsh Harvest Mouse)	FE	SE	Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	This Project is outside this listed species range	None. Outside known range
Spilogale gracilis amphiala (Channel Island Spotted Skunk*)*		SCC	Santa Cruz and Santa Rosa Islands only		This Project is outside this listed subspecies range	None. Outside known range
Sorex ornatus relictus (Buena Vista Lake Ornate Shrew)	FE	SSC	Marshlands on southern end of San Joaquin Valley from Tulare Lake Basin to Bakersfield and Buen Vista, Tulare and Kern Lake.		This Project is outside this listed subspecies range	None. Outside known range
Sylvilagus bachmani riparius (Riparian Brush Rabbit)	FE	SE	Two Populations: Caswell Park riparian communities along San Joaquin River from 1.7 miles south of confluence of the Tuolumne and San Joaquin River to 2.5 miles north of confluence with Stanislaus River and 4.2 miles east along Stanislaus River. The 2nd population is South Delta from 1.7 miles of I5 Mossdale Bridge over San Joaquin River northwest along Paradise Cut and north 5.6 miles along San Joaquin River.		This Project is outside this listed subspecies range	None. Outside known range
Taxidea taxus (American Badger)		SSC	Found throughout most of the state. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low habitat potential within BREA as cultivated open areas, fencing, and pest control	Low habitat potential within the Study Area as cultivated open areas, fencing, and pest control for agricullture

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Taxon: Amphibians						
Ambystoma californiense (California Tiger Salamander)	FE	ST	Cismontane woodlands, meadows & seeps, riparian woodlands, valley & foothill grassland, vernal pools, and wetlands.	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	This Project is outside this listed species range	None. Outside known range
Dicamptodon ensatus (California Giant Salamander)		SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County.	Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	Habitat Present. Cnddb has occurrences within 5-miles of project	Habitat possible. The pond within Study Area might provide breeding habitat.
Rana boylii - Northwest, North Coast Population (Foothill Yellow-Legged Frog)		SSC	Rocky streams in valley-foothill hardwood, valley foothill hardwood/conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadows.	Rarely far from permanent water. Tadpoles need water for at least 3 - 4 months	Habitat Present. Cnddb has occurrences within BREA and 5-miles of project	Unlikely due to lack of suitable breeding habitat
Rana draytonii (California Red-Legged Frog)	FT	SSC	Vicinity of quiet, permanent pools of streams, marshes, and occassional ponds. Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Habitat Present. Cnddb has occurrences within 5-miles of project	Habitat possible. The pond within Study Area might provide breeding habitat
Spea hammondii (Western Spadefoot)		SSC	Primarily found in grasslands, with occasional populations in valley foothill hardwood woodlands. Some populations persist in orchard or vineyards.	Breeding requires shallow, temporary pools. Egg masses are attached to plant material or small rocks. Rainfall important in formation and maintenance of breeding pools.	Napa County is just outside the known range.	Unlikely as Napa County is just outside known range
Taricha rivularis (Red-Bellied Newt)		SSC	Broadleaved upland forest. North coast coniferous forests, redwood forests, riparian forests.	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Habitat Present. Cnddb has occurrences within 5-miles of project	Unlikely due to lack of broadleaved and moister forest conditions. Breeding habitat is only marginal.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Taricha torosa (Coast Range Newt)		SSC	Population in Monterey County south only is a State SSC		Napa County is outside the known species range.	None. Outside known range
Taxon: Reptile						
Chelonia mydas (Green Sea Turtle)	FT				This Project is outside this listed species range	None. Outside known range
Emys marmorata (Western Pond Turtle)		SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km (2,000') from water for egg-laying.	Habitat Present. Cnddb has occurrences within 5-miles of project	Moderate habitat present due to pond within Study Area
Thamnophis sirtalis tetrataenia (San Francisco Gartersnake)	FE	SE	San Francisco peninsula in San Mateo County.		This Project is outside this listed subspecies range	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Taxon: Fisheries						
Cottus gulosus (Riffle Sculpin)		SSC	Permanent Streams similar to rainbow trout	Headwater streams with cold water and rocky or gravelly substrate	Habitat present within the 5-mile assessment area	Unlikely. Mitigation to reduce sediment transport downstream that could conceivably impact fishery habitat has been incorporated into this project and into the ECP. With mitigation for sediment reduction, the project is not expected to have an adverse impact on fisheries habitat.
Hypomesus transpacificus (Delta Smelt)	FT	SE	Aquatic and estuaries	Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	Most significant habitat for Delta Smelt is the lower reaches of the Napa River. Project BREA and 5-mile assessment area may be outside their range.	Unlikely. Mitigation to reduce sediment transport downstream that could conceivably impact fishery habitat has been incorporated into this project and into the ECP. With mitigation for sediment reduction, the project is not expected to have an adverse impact on fisheries habitat.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Lavinia exillicauda exilicauda (Sacramento Hitch)		SSC	Shasta Reservoir and larger tributaries of San Francisco Estuary and Delta Sloughs.	Spawning over gravel riffles. Aquatic - Warm, lowland, waters including clear streams, turbid sloughs, lakes and reservoirs	Unlikely. May be outside known range.	Unlikely. Mitigation to reduce sediment transport downstream that could conceivably impact fishery habitat has been incorporated into this project and into the ECP. With mitigation for sediment reduction, the project is not expected to have an adverse impact on fisheries habitat.
Oncorhynchus kisutch pop. 4 (Coho Salmon - Central CA Coast ESU)	FE	SE	Aquatic - Anadromous fish	Populations in tributaries to SF Bay Area	Habitat Present. Cnddb lists occurrances within 5-mile assessment area	Unlikely. Mitigation to reduce sediment transport downstream that could conceivably impact fishery habitat has been incorporated into this project and into the ECP. With mitigation for sediment reduction, the project is not expected to have an adverse impact on fisheries habitat.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Oncorhynchus mykiss irideus pop. 8 (Steelhead - Central California Coast DPS)	FT		Aquatic - Anadromous fish	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	Habitat Present. Cnddb lists occurrances within 5-mile assessment area	Unlikely. Mitigation to reduce sediment transport downstream that could conceivably impact fishery habitat has been incorporated into this project and into the ECP. With mitigation for sediment reduction, the project is not expected to have an adverse impact on fisheries habitat.
Oncorhynchus tshawytscha pop. 17 (Chinook Salmon - CA Coastal ESU)	FT		Aquatic - Anadromous fish. Chinook Salmon in the Napa River watershed are a fall run species.	All naturally spawned populations of salmon (and their progeny) in rivers and streams south of the Klamath River to Russian River.	Habitat May be Present	Unlikely. Mitigation to reduce sediment transport downstream that could conceivably impact fishery habitat has been incorporated into this project and into the ECP. With mitigation for sediment reduction, the project is not expected to have an adverse impact on fisheries habitat.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA/5-Mile	Likelihood of Occurrence within Study Area
	FEDERAL	STATE				
Taxon: Other						
Bombus occidentalis (Western Bumble Bee)		SCE	Once common & widespread, now primarily located in high meadows or coastal environments	Nest & hibernation sites in-ground in abandon rodent burrows or similar cavity, or above ground in log cavities or similar cavity, or dense tufts of grass and dead vegetation. Need floral resources and undisturbed nest sites and overwintering areas.	Habitat Present. Cnddb lists occurrances within 5-mile assessment area	Moderate habitat present. Preferred Plants include: Cirsium, Erigonum, Solidago, Aster, Ceanothus, Centaurea, Penstemon, Fabaceae, Asteraceae, Rhamnaceae, and Rosaceae.
Syncaris pacifica (California Freshwater Shrimp)	FE	SE	Aquatic - Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy.	Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	Habitat Present. Cnddb lists occurrances within 5-mile assessment area	Unlikely due to lack of suitable aquatic habitat.

Listing Status:

FT = Federally Threatened
FE = Federally Endangered
FPE = Federally Proposed for Listing as Endangered
ST = California State Threatened
SE = California State Endangered
SCE = California Candidate for Endangered
FP = Fully Protected Species
WL = California Watch List
SSC = Species of Special Concern
Delisted = Delisted from Endangered Species Act

Sensitive = CalFire Sensitive Species
BCC = USFWS Bird of Conservation Concern
WBWG:M = Western Bat Working Group - Moderate Concern
WBWG:H = Western Bat Working Group - High Concern

Attachment #5

Wildlife Species Identified on/adjacent to Schramsberg Property

Birds:

- American Robin
- Western Flycatcher (Pacific Slope Flycatcher)
- Common Ravens (numerous)
- Dark-Eyed Junco
- Acorn Woodpecker
- Northern Flicker
- Scrub Jay
- Stellar's Jay
- California Quail
- Chestnut-Backed Chickadee
- Turkey Vulture
- Hummingbird species
- Wild Turkeys
- Unknown Sparrow species
- Winter Wren
- Great Horned Owl
- Mourning Dove
- Band-Tailed Pigeon
- PERSONAL OBSERVATION: LOTS OF WOODPECKERS & COMMON RAVENS (2022)

Mammals:

- Squirrel nests
- Bats
- Black Bear (within Bothe Napa Valley State Park)

Reptiles:

- Western Fence Lizards

Amphibians:

- Tree Frogs (Chorus Frogs)

Fisheries:

- None – no Class I watercourses

Wildlife Observations:

- Snags/Cavity trees throughout – many created by wildfire
- Rock Outcrop – rocks stacked by people
- Holes in ground – many created by wildfire

Other Interesting Observations:

- Lots of noise (heavy equipment, crews in fields, cars on road – commercial business)

Attachment #6

Special Status Natural Communities with Potential to Occur

Community	Grank	SRank	Napa Sensitive	Likelihood of Occurrence at Project Site?
Alnus rhombifolia-Salix spp.-Umbellularia californica-Acer macrophyllum Association	G4	S4	Yes	Unlikely, Community not found
Arbutus menziesii – Umbellularia californica Association	G4	S3	-.-	Moderate, Community not found
Arbutus menziesii Woodland Alliance	G4	S4.2	-.-	Moderate, Community not found
Arctostaphylos (canescens, manzanita, stanfordiana) Shrubland Alliance	G3	S3	No	High, Community not found
Arctostaphylos manzanita -Quercus wislizeni-Umbellularia californica/Adenostoma fasciculatum NFD	G3	S3	Yes	Moderate, Community not found
Pinus ponderosa Forest Alliance	G5	S4	Yes	Moderate, Community not found
Pseudotsuga menziesii -Pinus ponderosa Forest Alliance NFD	GNR	S4	Yes	Moderate, Community not found. Project Designed to avoid this Community that is found within Study Area.
Pseudotsuga menziesii – Quercus agrifolia Association	G3?	S3	-.-	Moderate, Community not found.
Pseudotsuga menziesii-Notholithocarpus densiflorus Forest and Woodland Alliance	G3	S3	-.-	Unlikely, Community not found
Quercus durata/Arctostaphylos viscida Association NFD	-.-	-.-	Yes	Moderate, Community not found
Quercus garryana Woodland Alliance	G4	S3	-.-	High, Community not found
Quercus lobata Woodland Alliance	G3	S3	Yes	Moderate, Community not found
Quercus lobata - Umbellularia californica - Quercus agrifolia - Juglans spp. - Fraxinus spp. Association NFD	G3	S3	Yes	Unlikely, Community not found
Salix sp. Woodland Alliance NFD	G4	S3	Yes	Unlikely, Community not found
Sequoia sempervirens Forest Alliance	G3	S3.2	Yes	High, Community not found
Sequoia sempervirens -Pseudotsuga menziesii - Umbellularia californica Association	G3	S3	Yes	High, Community not found. Project Designed to avoid this community. Found in Study Area.
Umbellularia californica Forest and Woodland Alliance	G3	S3	-.-	High, Community not found
Umbellularia californica - Quercus durata - Rhamnus spp. Association NFD NFD Super Alliance	-.-	-.-	Yes	Unlikely, Community not found
Umbellularia californica -Arbutus menziesii -Quercus agrifolia -Quercus kelloggii-Acer macrophyllum Woodland Alliance NFD	G4	S3	Yes	High, Community not found

[1]January 2022 California Department of Fish and Game, California Sensitive Natural Communities List

NFD - Not formally defined

Attachment #7

Bumble Bee (*Bombus spp*) Recommended Plant List

The following list is based on several years of evaluation and survey work completed in Northern and Southern California by UC research group. Plants are listed in alphabetical order by season, and we have tried to include only California native plants.

Spring Plants

Name	Plant Origin	Annual or Perennial	Pollen (P) or Nectar (N)	Notes
Manzanita (*Arctostaphylos spp.)*	CA	Per	N	Visitation by bumble bees is low but consistent
Bush Anemone (*Carpenteria californica)*	CA	Per	P	
Wild Lilac (*Ceanothus 'Julia phelps'* and 'Dark Star'	CA	Per	P	Excellent spring pollen source for many bee species
Wild Lilac *(Ceanothus* 'Yankee Point')	CA	Per	P	Great ground cover plant
Wild Lilac *(Ceanothus* 'Ray Hartman')	CA	Per	P	Bumble bees adore this plant
Lilac – Blue Blossom (*Ceanothus thyrsiflorus*)	CA	Per	P	
Desert Willow (*Chilopsis linearis*)	CA	Per	P/N	Likes warm inland ecotypes
Elegant Clarkia (*Clarkia unguiculata)*	CA	Ann	N	Plant in 1-2 meter diameter patches for best attraction
Chinese Houses (*Collinsia heterophylla)*	CA	Ann	N	Plant in shade or partial shade
California Poppy (*Eschschoizia californica)*	CA	Ann	P	Mainstay pollen source for many bee species
California Gillia (*Gillia achilleifolia)*	CA	Ann	P/N	
Globe Gillia (Gillia capitata)	CA	Ann	P/N	
Tidytips (*Layia platyglossa)*	CA	Ann	P/N	Attracts at low levels
Blazing Star (*Mentzelia lindleyi)*	CA	Ann	P/N	
Penstemon (*Penstemon heterophyllis)*	CA	Per	N	Plant in patches greater than 1-meter in diameter. Likes occasional water and good drainage
California Phacelia (*Phacelia californica)*	CA	Per	P/N	White flowers are small, but very attractive to bumble bees
CA Desert Bluebells (*Phacelia campanularia)*	CA	Ann	P/N	
Caterpillar Phacelia (*Phacelia cicutaria)*	CA	Ann	P/N	Long flowering
Large-flower Phacelia (*Phacelia grandiflora)*	CA	Ann	P/N	
California Bluebell (*Phacelia minor)*	CA	Ann	P/N	

Tansy Phacelia (Phacelia tanacetifolia)	CA	Ann	P/N	One of the best pollen/nectar sources for several spring bee species. Pollen is purple
Sticky Phacelia (*Phacelia viscida)*	CA	Ann	P/N	
Brandegee Sage (*Salvia brandegeei)*	CA	Ann	N	
Black Sage (*Salvia mellifera)*	CA	Per	N	
West Verbena (*Verbena lasiostachys)*	CA	Per	N	Dead-head and water regularly to maintain flowering

Summer Plants

Name	Plant Origin	Annual or Perennial	Pollen (P) or Nectar (N)	Notes
Mint (*Agastache spp.)*	Exotic	Per	N	
Coast Buckwheat (*Eriogonum latifolium)*	CA	Per	N	Good for coastal environments
Buckwheat (*Eriogonum nudum)*	CA	Per	N	
Sea Holly (*Eryngium spp.)*	Exotic	Per	N	Highly attractive plants for bees
Sunflower (*Helianthus annuus)*	CA	Ann	P/N	Dead-head
Deerweed (*Lotus scoparius)*	CA	Per	N	Great nectar source and does well in poor soils
Mountain Monardella (Monardella ordoratissima)	CA	Per	N	
Penstemon (*Penstemon heterophyllus)*	CA	Per	N	Likes occasional water and good drainage
Goldenrod (*Solidago californica)*	CA	Per	N/P	Attractive bee plant and some cultivars are VERY attractive

The plants listed will flower within one or two years; most during the first year of planting. There are distinct groups of bees present in spring and in summer, with some groups observed year-round. Higher bee diversity and abundance occurs when “bee gardens” have a rich assortment of bee plants. Bees will also remain longer if plant diversity is high. In addition, “bee garden patch size” (1 meter in diameter or larger) is best for foraging bees, with smaller patches of attractive plants being ignored.

Your local nursery can be helpful in providing and choosing those plant species that work well in your region.

Attachment #8

Reference Material Specific to Project

- Soil Survey Report
- BREA Map Delineation
- Cnddb Map
- California WHR Report
- USFWS IPac Report
- NMFS EHM

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Napa County, California

Schramsberg Property Boundary



April 6, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

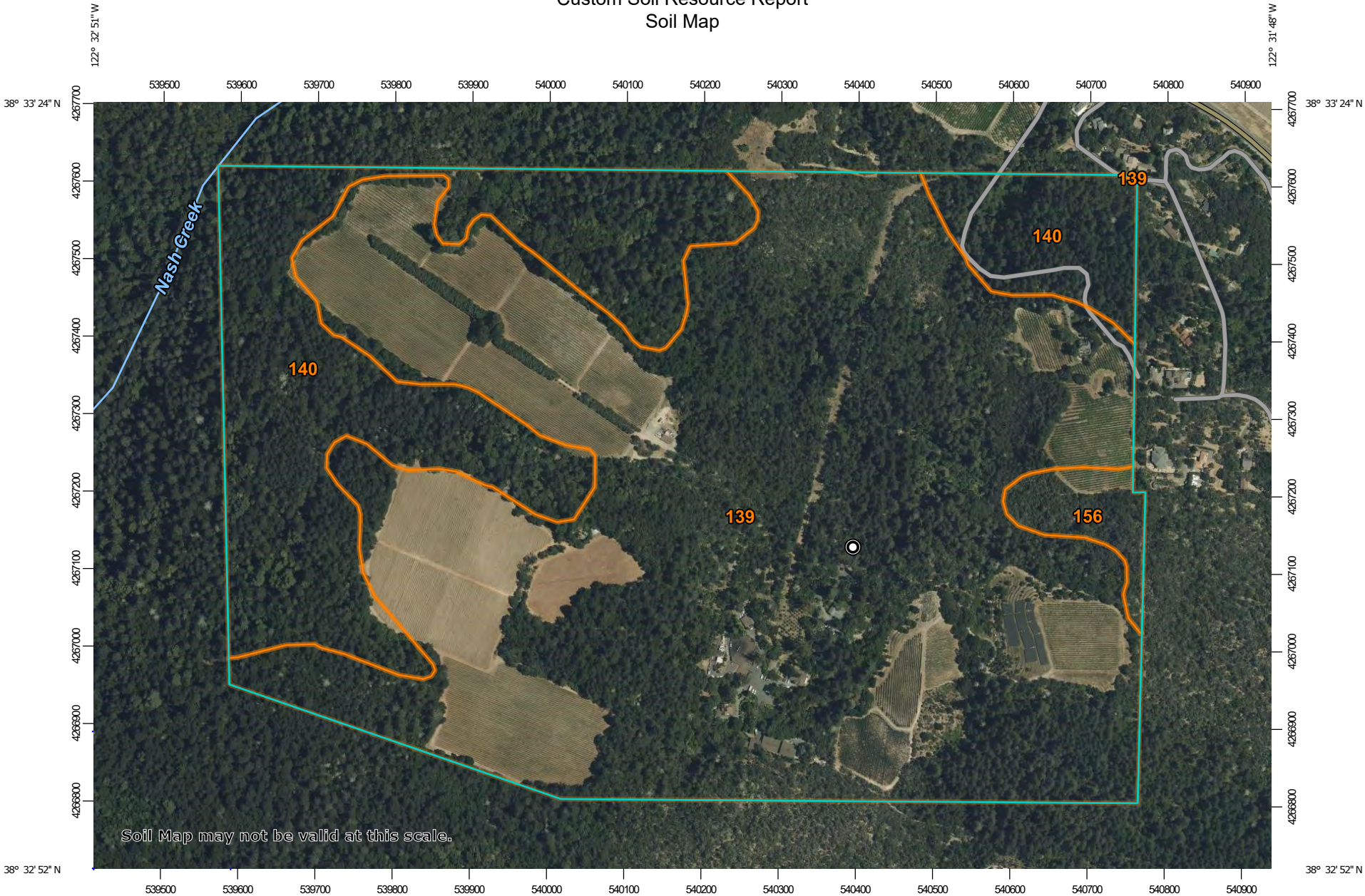
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:6,980 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Napa County, California
Survey Area Data: Version 14, Sep 9, 2021

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

Date(s) aerial images were photographed: Jul 2, 2019—Jul 5, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
139	Forward silt loam, 5 to 39 percent slopes, MLRA 15	169.4	73.4%
140	Forward silt loam, 12 to 57 percent slopes, MLRA 15	57.0	24.7%
156	Kidd loam, 30 to 75 percent slopes	4.3	1.9%
Totals for Area of Interest		**230.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Napa County, California

139—Forward silt loam, 5 to 39 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2xc9x
Elevation: 110 to 2,080 feet
Mean annual precipitation: 27 to 45 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 281 to 344 days
Farmland classification: Not prime farmland

Map Unit Composition

Forward and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Forward

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Rhyolitic residuum weathered from volcanic rock

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 6 inches: silt loam
BA - 6 to 12 inches: silt loam
Bw1 - 12 to 19 inches: silt loam
Bw2 - 19 to 28 inches: silt loam
Bw3 - 28 to 37 inches: gravelly silt loam
Cr - 37 to 51 inches: bedrock

Properties and qualities

Slope: 5 to 39 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R015XY009CA - Hills 20-40"ppt

Hydric soil rating: No

Minor Components

Aiken
Percent of map unit: 5 percent

Kidd
Percent of map unit: 5 percent

Boomer
Percent of map unit: 3 percent

Sobrante
Percent of map unit: 2 percent

140—Forward silt loam, 12 to 57 percent slopes, MLRA 15

Map Unit Setting
National map unit symbol: 2xc9y
Elevation: 310 to 2,370 feet
Mean annual precipitation: 33 to 56 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 260 to 338 days
Farmland classification: Not prime farmland

Map Unit Composition
Forward and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Forward

Setting
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Rhyolitic residuum weathered from volcanic rock

Typical profile
Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 6 inches: silt loam
BA - 6 to 12 inches: silt loam
Bw1 - 12 to 19 inches: silt loam
Bw2 - 19 to 28 inches: silt loam
Bw3 - 28 to 37 inches: gravelly silt loam
Cr - 37 to 51 inches: bedrock

Properties and qualities
Slope: 12 to 57 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Minor Components

Boomer

Percent of map unit: 5 percent

Aiken

Percent of map unit: 5 percent

Kidd

Percent of map unit: 3 percent

Sobrante

Percent of map unit: 2 percent

156—Kidd loam, 30 to 75 percent slopes

Map Unit Setting

National map unit symbol: hdlt
Elevation: 500 to 4,300 feet
Mean annual precipitation: 30 to 60 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Kidd and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kidd

Setting

Landform: Hills
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from rhyolite

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 75 percent
Depth to restrictive feature: 14 to 18 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R015XD127CA - VERY SHALLOW ROCKY
Hydric soil rating: No

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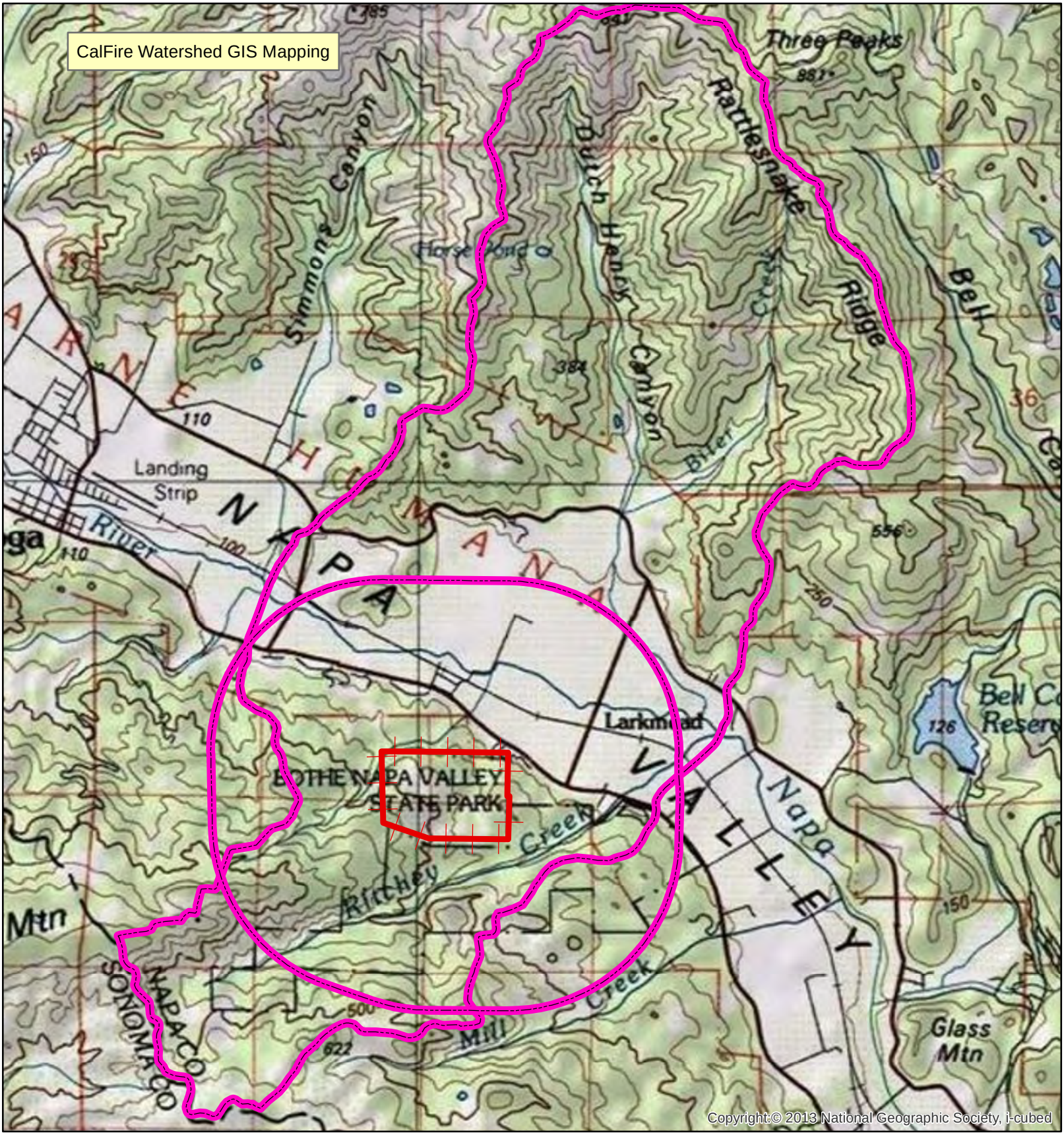
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Schramsberg Project - BREA



Legend

- Schramsberg Property Boundary
- Schramsberg BREA

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

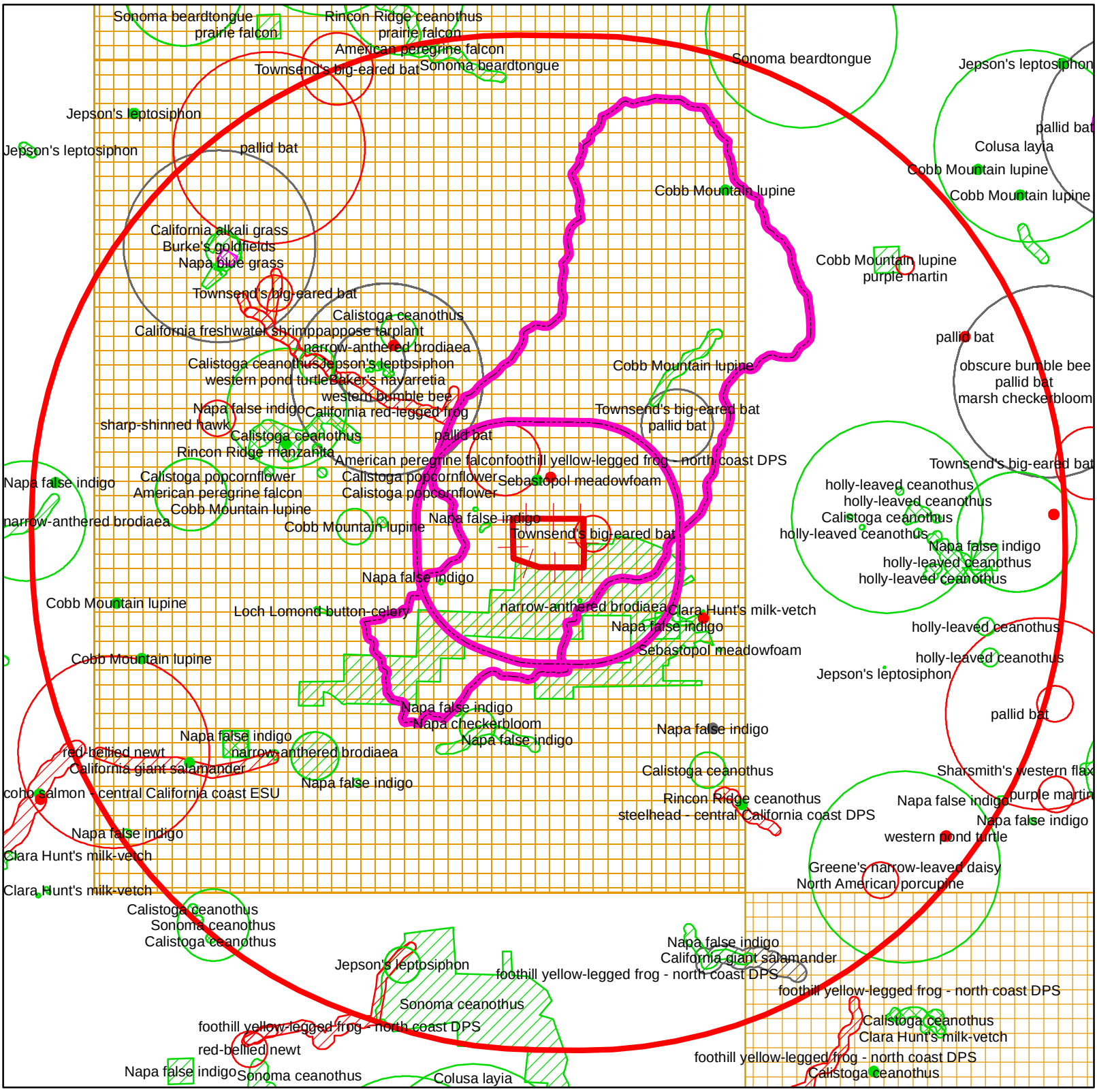
Forest Ecosystem Management

N

1 inch = 5,000 feet

Date: 7/28/2022

Schramsberg Project - CNDDB



Legend

- Schramsberg Property Boundary
- Schramsberg BREA
- Schramsberg 5-Mile Assessment Area

Sec(s) 8, 9, 16 & 17 T08N, R06W MDB&M
Napa County

Forest Ecosystem Management &
Salix Natural Resource Management

N

1 inch = 9,167 feet

Date: 12/7/2022

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
supported by the
CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP
and maintained by the
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
Database Version: 9.0

SPECIES SUMMARY REPORT

FE = Federal Endangered
FT = Federal Threatened
CE = California Endangered
CT = California Threatened
CF = California Fully Protected
CP = California Protected
SC = California Species of Special Concern
PE = Federally-Proposed Endangered
PT = Federally-Proposed Threatened
FC = Federal Candidate
BL = BLM Sensitive
FS = USFS Sensitive
CD = CDF Sensitive
HA = Harvest

Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	Species Name	Status	Native/Introduced
A001	CALIFORNIA TIGER SALAMANDER	FE FT CT SC	NATIVE
A007	CALIFORNIA NEWT	SC	NATIVE
A012	COMMON ENSATINA	SC BL FS	NATIVE
A028	WESTERN SPADEFOOT	SC BL	NATIVE
A043	FOOTHILL YELLOW-LEGGED FROG	SC BL FS	NATIVE
A071	CALIFORNIA RED-LEGGED FROG	FT SC	NATIVE
B003	COMMON LOON	SC	NATIVE
B042	AMERICAN WHITE PELICAN	SC	NATIVE
B051	GREAT BLUE HERON	CD	NATIVE
B052	GREAT EGRET	CD	NATIVE
B070	GREATER WHITE-FRONTED GOOSE	SC HA	NATIVE
B090	REDHEAD	SC HA	NATIVE
B102	BARROW'S GOLDENEYE	SC HA	NATIVE
B110	OSPREY	CD	NATIVE
B111	WHITE-TAILED KITE	CF BL	NATIVE
B113	BALD EAGLE	CE CF BL FS CD	NATIVE
B114	NORTHERN HARRIER	SC	NATIVE
B126	GOLDEN EAGLE	CF BL CD	NATIVE
B129	PEREGRINE FALCON	CF CD	NATIVE
B140	CALIFORNIA QUAIL	SC HA	NATIVE
B143	BLACK RAIL	CT CF BL	NATIVE
B144	CLAPPER RAIL	FE CE CT CF	NATIVE
B154	SNOWY PLOVER	FT SC	NATIVE
B159	MOUNTAIN PLOVER	SC BL	NATIVE
B269	BURROWING OWL	SC BL	NATIVE
B270	SPOTTED OWL	FT SC BL FS CD	NATIVE
B272	LONG-EARED OWL	SC	NATIVE
B273	SHORT-EARED OWL	SC	NATIVE
B309	OLIVE-SIDED FLYCATCHER	SC	NATIVE
B338	PURPLE MARTIN	SC	NATIVE
B342	BANK SWALLOW	CT BL	NATIVE
B368	BEWICK'S WREN	SC	NATIVE
B372	MARSH WREN	SC	NATIVE
B410	LOGGERHEAD SHRIKE	FE SC	NATIVE
B417	HUTTON'S VIREO	SC	NATIVE
B430	YELLOW WARBLER	SC	NATIVE
B461	COMMON YELLOWTHROAT	SC	NATIVE
B467	YELLOW-BREASTED CHAT	SC	NATIVE
B483	SPOTTED TOWHEE	SC	NATIVE

ID	Species	Status	Native/Introduced
B484	CALIFORNIA TOWHEE	FT CE	NATIVE
B487	RUFOUS-CROWNED SPARROW	SC	NATIVE
B494	VESPER SPARROW	SC	NATIVE
B497	BELL'S SPARROW	FT SC	NATIVE
B499	SAVANNAH SPARROW	CE SC	NATIVE
B501	GRASSHOPPER SPARROW	SC	NATIVE
B505	SONG SPARROW	SC	NATIVE
B519	RED-WINGED BLACKBIRD	SC	NATIVE
B520	TRICOLORED BLACKBIRD	SC BL	NATIVE
B522	YELLOW-HEADED BLACKBIRD	SC	NATIVE
M006	ORNATE SHREW	FE SC	NATIVE
M018	BROAD-FOOTED MOLE	SC	NATIVE
M023	YUMA MYOTIS	BL	NATIVE
M025	LONG-EARED MYOTIS	BL	NATIVE
M026	FRINGED MYOTIS	BL	NATIVE
M033	WESTERN RED BAT	SC FS	NATIVE
M037	TOWNSEND'S BIG-EARED BAT	SC BL FS	NATIVE
M038	PALLID BAT	SC BL FS	NATIVE
M045	BRUSH RABBIT	FE CE HA	NATIVE
M051	BLACK-TAILED JACKRABBIT	SC HA	NATIVE
M087	SAN JOAQUIN POCKET MOUSE	SC BL	NATIVE
M105	CALIFORNIA KANGAROO RAT	SC	NATIVE
M114	SALT-MARSH HARVEST MOUSE	FE CE CF	NATIVE
M117	DEER MOUSE	SC	NATIVE
M127	DUSKY-FOOTED WOODRAT	FE SC	NATIVE
M134	CALIFORNIA VOLE	FE CE SC BL	NATIVE
M147	RED FOX	CT FS HA	NATIVE
M152	RINGTAIL	CF	NATIVE
M160	AMERICAN BADGER	SC HA	NATIVE
M161	WESTERN SPOTTED SKUNK	SC HA	NATIVE
M165	MOUNTAIN LION	SC	NATIVE
M170	CALIFORNIA SEA-LION	CP	NATIVE
M171	HARBOR SEAL	CP	NATIVE
R004	WESTERN POND TURTLE	SC BL FS	NATIVE
R023	COMMON SAGEBRUSH LIZARD	BL	NATIVE
R036	WESTERN SKINK	SC BL	NATIVE
R046	NORTHERN RUBBER BOA	CT FS	NATIVE
R048	RING-NECKED SNAKE	FS	NATIVE
R053	STRIPED RACER	FT CT	NATIVE
R057	GOPHERSNAKE	SC	NATIVE
R059	CALIFORNIA MOUNTAIN KINGSNAKE	SC BL FS	NATIVE
R061	COMMON GARTERSNAKE	FE CE CF SC	NATIVE

Total Number of Species: 81

Query Parameters

Included Locations
Napa Co

Included Location Seasons
Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)
Annual Grassland, Barren, Blue Oak Woodland, Chamise-redshank Chaparral, Closed-cone Pine-cypress, Coastal Oak Woodland,

Douglas-fir, Lacustrine, Mixed Chaparral, Montane Hardwood, Montane Riparian, Redwood, Riverine, Urban, Vineyard

Habitat Suitability Threshold
Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons
Migrant, Summer, Winter, Yearlong

Excluded Elements
No Elements Excluded

Included Species
All Species Included

Included Special Statuses
Blm Sensitive, California Endangered, California Fully Protected, California Protected, California Species Of Special Concern, California Threatened, Cdf Sensitive, Federal Candidate, Federal Endangered, Federal Proposed Endangered, Federal Proposed Threatened, Federal Threatened, Usfs Sensitive

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United States Department of the Interior

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

In Reply Refer To:
Project Code: 2022-0029007
Project Name: Schramsberg

April 06, 2022

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Project Code: 2022-0029007
Event Code: None
Project Name: Schramsberg
Project Type: Clearing Land
Project Description: Vineyard Conversion & Fuel Hazard Reduction
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.5533339,-122.53861642325975,14z



Counties: Napa County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

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

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

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

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

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/1123

Reptiles

NAME	STATUS
Green Sea Turtle *Chelonia mydas*	Threatened

Population: East Pacific DPS
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6199

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2891

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Crustaceans

NAME	STATUS
California Freshwater Shrimp *Syncaris pacifica*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7903

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4338

Clara Hunt's Milk-vetch *Astragalus clarianus*	Endangered

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

Loch Lomond Coyote Thistle *Eryngium constancei*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5106

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Forest Ecosystem Management
Name: Pam Town
Address: 1692 East Road
City: Deary
State: ID
Zip: 83823
Email pamtown30@gmail.com
Phone: 4064907427

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office
Alaska Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 38º 33' 18" N, Longitude = 123º 27' 50" W
Decimal Degrees: Latitude = 38.555, Longitude = -122.536

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No Essential Fish Habitats (EFH) were identified at the report location.

Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	San Pablo Bay - Below San Pablo Dam	Chinook Salmon, Coho Salmon	All	Pacific	Pacific Coast Salmon Plan

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,
Jack Mackerel,
Pacific (Chub) Mackerel,
Pacific Sardine,
Northern Anchovy - Central Subpopulation,
Northern Anchovy - Northern Subpopulation,
Pacific Highly Migratory Species,
Bigeye Thresher Shark - North Pacific,
Bluefin Tuna - Pacific,
Dolphinfish (Dorado or Mahimahi) - Pacific,
Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific