

Biological Resource Reconnaissance Survey



Report for: Miller THP/Conversion
3906 Silverado Trail; Calistoga, California
Napa County APN: 021-030-006

Date: March 23, 2023

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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 also has experience with wetland delineations, as per the Army Corps of Engineers Technical Report (#Y-87-1). 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 County-defined drainage upstream and including the subject parcel.

Study Area: The area in which a field evaluation was performed, including the Project Area. In the Miller THP/Conversion Project, the Study Area is the parcel.

Project Area: The area of the proposed project (vineyard conversion) evaluated for potential direct impacts to sensitive biological resources.

UPDATED REPORT:

This Report updates and replaces the November 4, 2021 Biological Resource Reconnaissance Survey Report. Changes to the report includes responses to Napa County Planning, Building & Environmental Services' File # P22-00153 Application Completeness Determination – Miller Vineyard letter dated 10JUN22 (Attachment #8). Updates are located on pages 4, 12, 21-22, 23, and 33-36.

This Report updates and replaces the July 26, 2022 Biological Resource Reconnaissance Survey Report. Changes to the report includes updating the project footprint and acres impacted. Updates are located on pages 4, 5, 12, 22 and appropriate maps.

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.

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey (BRRS) for the conversion of 6 acres of mixed forest to 3 separate vineyard sub-blocks (Blocks B1, B2, & B3) and permitting an 1-acre existing vineyard (Block A). The Project Area is located in the 27.76-acre parcel (APN 021-030-006) of the Miller Property Ownership at 3906 Silverado Trail; Calistoga, California (Map #1). The property ownership occurs within Napa County.

Portions of the Project Area is considered Timberland as defined by the California Forest Practice Rules, with approximately 6 acres of forest (Douglas-fir forest and oak woodland) to be converted to grapes (Map #2). The entire Project Area is within the 2020 Glass Wildfire Perimeter (Map #3). The majority of mid-story (shrubs) and ground cover (forbs) were burned, or removed prior to the wildfire for fuel hazard reduction; with some overstory trees burned or dying due to intense heat, while some green overstory trees remain post fire (Attachment #1). Biological surveys were completed pre and post wildfire, and prior to an Emergency Notification Exemption logging operations to remove the dead and dying material post wildfire.

The Project Area is intentionally situated to avoid watercourses within the parcel. There will be no impacts to wetlands or watercourses within the Study Area as a result of this project. To address the concerns of Napa County's 10JUN22 Informational Request (Attachment #8), a Hydrological Study and Report will be completed to address concerns regarding distance to Napa River and other major creeks.

A protocol-level rare plant survey identified no special status plants and 2 sensitive natural communities [White Oak Alliance (*Quercus garryana*), and Valley Oak Alliance (*Quercus lobata*)] within the Study Area. The Project Area was situated to avoid sensitive natural communities.

There is one special-status bird (Northern Spotted Owl) with marginal foraging habitat present; and 8 non-status species with baseline legal protections (Olive-Sided Flycatcher, Purple Martin, Pallid Bat, Townsend's Big-Eared Bat, Western Red Bat, Hoary Bat, Fringed Myotis, and Long-Legged Myotis) that might be found residing on or immediately adjacent to the Study Area. Mitigation measures, in the form of additional bird and bat surveys prior to tree removal and groundbreaking operations as outlined within the Project Recommendation Section; and best management practices throughout the permitting process, have been developed and provided herein to avoid impacts to these species and their habitat.

INTRODUCTION

Throughout the spring and summer of 2020 and 2021 (18MAR20, 09APR20, 20APR20, 28APR20, 13MAY20, 04JUN20, 15MAR21, 29MAR21, 20APR21, 26APR21, 27APR21, 10MAY21, and 03JUN21 for biological, and 28APR20, 28MAY20, 17JUL20 and 15MAR21 for botanical), an assessment of biological resources and several species-specific surveys were completed within the Miller's Property Study Area (Map #4) located at 3906 Silverado Trail; Calistoga, California by Pamela Town, Heather Morrison and Scott Butler (RPF). The 27.7-acre Study Area is a mixed natural plant community of 25.9 acres and 1.8 acres of existing vineyard/structures. Immediately adjacent to the Study Area are vineyards, residential structures, development of Napa Valley, and mixed forest types (Map #5). During the spring and summer of 2020 and 2021, an assessment of biological resources and surveys were completed; and with the Glass wildfire occurring in the Fall of 2020, this assessment was able to include both pre and post wildfire habitat. The purpose of these surveys were to gather the information necessary to 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 and California Department of Forestry and Fire Protection Timber Harvest Plan/Conversion.

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 Study 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 2020 Glass wildfire 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 6 acres of mixed forest to vineyard. Associated with the installation of the grape vines will be vineyard avenues, and irrigation lines. 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. The Project also includes the permitting of an 1-acre vineyard that was installed without required permits; for a total Project Area of 7 acres.

REGULATORY SETTING

This report is intended to facilitate conformance of the Project with the standards outlined in the Napa County Guidelines for Preparing Biological Resources Reconnaissance Surveys and support permitting by the California Department of Forestry and Fire Protection THP/Conversion. 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 or 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 (CFGF). 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 (CNDDDB) due to the rarity of the community in the state or throughout its entire range (globally). Currently the CNDDDB uses Holland vegetation community names and has not added any new sensitive natural community records to the CNDDDB 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. 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 new development is required to retain a minimum of 40% vegetation understory and a minimum of 70% canopy cover existing on the parcel on 16JUN93., the vegetation selected for retention should be in areas designated to maximize habitat value and connectivity.
 - This parcel is in the AW zoning and recovering from the 2020 Glass wildfire, therefore, project needs to analyze the 70% canopy cover as the parcel was in the 2018 NC imagery per 18.108 and the Water Quality Tree Protection Ordinance.
 - 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.

- o 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.
 - o 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:
 - o 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.
 - o 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.
 - o 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.
 - o Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil production be left standing.
 - o 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.

General Provisions – Stream and Wetland Setbacks: 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.

PROJECT DESCRIPTION OVERVIEW

Project Location: 3906 Silverado Trail; Calistoga, CA (Map #1)

County: Napa

Legal Description: Portions of Section 10 T08N R06W MDB&M

Parcel #: APN 021-030-006

General Project: The project proposes to convert approximately 6 acres of mixed forest (Douglas-fir and oak woodland) to vineyard (Map #2), in addition to permitting Vineyard Block A (1 acre) where an existing vineyard was put in without permits by a previous landowner. The current property owner is including this portion within the permitting process. Using historical aerial photos, it appears the vineyard was put in June/July 2009. Prior to that date, using aeriels back to December 1985, this area was primarily grass with a few trees scattered.

The Study Area (Maps #4 & #5) encompasses both the Project Area and parcel owned by Miller. The Study Area is comprised of approximately 27.7 acres of primarily mixed forest types: *Quercus agrifolia* (coast live oak), *Pseudotsuga menziesii* (Douglas-fir), *Quercus lobata* (valley oak), and *Quercus garryana* (white oak); plus, a small area of *Avena-Bromus* (oat-brome) grassland (Map #7). There is also 1 acre of an existing vineyard (Block A), numerous buildings (outbuildings, residential housing), and supporting roads.

The Biological Resource Assessment Area includes all lands within 1 mile of the boundaries of the parcel involved as well as the County defined drainage upstream and including the subject parcel utilizing a standard community classification scheme for identifying natural communities from species data (Map #6). Using the Calwater22 GIS dataset, a California Watershed Mapping layer that encompasses Napa County, the Project Area falls along the line of two watersheds, Ritchie Creek and York Creek; both part of the larger Napa River Watershed. The Biological Resource Assessment Area for this Project includes both the Ritchie Creek watershed (Calwater 2206.500203) and York Creek watershed (Calwater 2206.500201) and a small portion toward Bell Canyon Reservoir (an area outside the York Creek watershed but within 1 mile of the Property Boundary). The watersheds used for this report are larger than the County GIS layers 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.

ENVIRONMENTAL SETTING

The 27.7-acre Study Area (Maps #4 & #5) is located east, southeast of the town of Calistoga, California in Napa County.

Topography and Soils: The overall topography of the Study Area is relatively flat to over 60% slopes, ranging from approximately 300 to 530 feet above sea level. According to the Soil Survey (USDA 2021), the Study Area is underlain by four soil mapping units: Bale clay loam (0 – 2% slopes); Boomer loam, volcanic bedrock (2 – 35% slopes, MLRA 15); Boomer gravelly loam, volcanic bedrock (11 – 43% slopes, MLRA 15); and Boomer gravelly loam, volcanic bedrock (14 – 60% slopes, MLRA 15) (Attachment #7).

Bale Clay Loam: The parent material is alluvium derived from rhyolite and/or alluvium derived from igneous rock. The drainage class is somewhat poorly drained with a low runoff class. The depth to the water table is about 48 to 72 inches. This is a prime farmland if irrigated.

Boomer Loam, Volcanic Bedrock: The parent material is residuum weathered from volcanic rock. 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 farmland of statewide importance.

Boomer Gravelly Loam, Volcanic Bedrock: The parent material is 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.

Climate and Hydrology: The local watershed is characteristically Mediterranean with cool to warm, dry summers and cool, moist winters. Precipitation occurs exclusively as rainfall with the majority of the annual precipitation falling between November and March (US Climate Data). The average annual high temperature for Calistoga is 75 degrees Fahrenheit, with a record high of 106 degrees Fahrenheit, with multiple days exceeding 100 degrees Fahrenheit in 2021 due to “heat domes” and drought conditions (Weather and Climate 2021). The average minimum monthly low temperature is 44 degrees Fahrenheit. Precipitation falls as rain with an annual average of 40.87 inches. Precipitation-bearing weather systems are usually from the west and south.

The primary hydrology for the Study Area is precipitation and surface runoff. During heavy winter/spring rainfall events, evidence of ephemeral directional flow is evident in the form of two ephemeral-intermittent streams, one on the eastern boundary of the property and one on the western boundary (Map #10). No wetlands or other streams are mapped in the Study Area in USFWS National Wetlands Inventory (USFWS NWI 2018) or on the Calistoga 7.5-minute topographic quadrangle (USGS 1993). The Napa River; Ritchey Creek, York Creek and Mill Creek tributaries to the Napa River; Biter Creek a tributary to Dutch Henry Creek; and Dutch Henry Creek a tributary to Napa River in addition to numerous agricultural ponds occur within the Biological Resources Evaluation Area.

Land Cover and Land Use:

The landscape consists of a mosaic of different habitat types including conifers, (Douglas-fir, Knobcone Pine, and Redwoods), hardwoods (Valley Oak, Live Oak, White Oak, Blue Oak, and Black Oak), xeric chaparral, annual grassland, urban, agricultural (mostly vineyard), and lacustrine/riverine varying elevations (Map #6). The Study Area is along the edge of the highly developed Napa Valley bottom.

In September 2020, the Glass Wildfire swept through portions of the Napa Valley Watershed, with a portion of this landscape within the wildfire perimeter (Map #3). The landscape is now a mosaic of severely blacken burned areas to patches of unscathed areas (Map #8).

The Study Area is a mix of buildings and landscaping, a single 1-acre vineyard block, access roads, and mixed hardwood/conifer forest type (Map #5) all surrounded by a perimeter deer fence. The Glass Wildfire appears to have impacted portions of the forested areas within the property boundary, with the buildings and vineyard still intact. Portions of the property was subject to a severe ground burn, where organic materials were completely combusted, leaving a thick ash layer and stump and root holes that were created where the fire burned the tree root system. Many overstory trees were killed by flame or heat and most of the ground cover and shrubs were burned (Appendix #1). An Emergency Notice of Operations was applied in the Fall of 2021 to remove the dead and dying trees. Per Scott Butler, RPF, the Emergency Notice will remove approximately 40% of the overstory within the Project Area and 20% of the overstory outside the project area.

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 of Napa County, California (USDA 2019)
Aerial photographs (Google Earth & GIS Datasets)
National Wetlands Inventory (USFWS 2020)
California Aquatic Resources Inventory (SFEI 2019)
California Natural Diversity Database, CNDDDB (CDFW 2021)
California Natural Diversity Database, Special Animal List (CDFW 2021)
California Wildlife Habitat Relationships System (CDFW 2018)
California Native Plant Society Electronic Inventory (CNPS 2021)
Consortium of California Herbaria (CCH 2020)
A Manual of California Vegetation Online (CNPS 2020)
Preliminary Descriptions of the Terrestrial Natural Communities (Holland 1986)
Napa County Checklist of Common Birds of Napa County (Napa-Solano Audubon)
Napa County Land Cover (NCLC) map (Thorne et al. 2004)
California Natural Community List (CDFW 2018)
California Department of Fish and Game, California Sensitive Natural Communities List (9/2020)
USFWS List of Federal Endangered and Threatened Species (USFWS 2020)
eBird Online Database (eBird 2020)
California Bird Species of Special Concern (Shuford and Gardali 2008)
Spotted Owl Database (CDFW 2021)
USFWS Information for Planning and Consultation (IPaC USFWS 2021)
NMFS – Essential Fish Habitat Mapper (NMFS 2021)

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., CNDDDB, CNPS) focused on the Biological Resources Evaluation Area, and extended out 5 miles from the parcel boundary for wildlife species.

Following the remote assessment, Pamela Town, Consulting Wildlife Biologist and Heather Morrison, Consulting Botanist & Forester traversed the entire Study 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

Land Cover Types: Terrestrial land cover types were mapped across the Study 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 2021). 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. 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.

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).

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 Study 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, USFWS 1996). Plants were identified using The Jepson Manual, 2nd Edition (Baldwin et. al 2012), Jepson Flora Project (Jepson eFlora 2019), and Picture This (2021 ap), 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 false-indigo (*Amorpha californica* var. *napensis*): a reference population was visited on June 1, 2020 and February 1, 2021 (plant not in bloom) near Santa Rosa, CA in Sonoma county. This plant is easily identifiable outside of the bloom window with its distinct growth form and foliage.
- Hollyleaf ceanothus (*Ceanothus purpureus*): a reference population was visited on June 10, 2020 and February 25, 2021 near Santa Rosa in Sonoma county.
- Narrow-leaved brodiaea (*Brodiaea leptandra*): a reference population was visited on July 15, 2020 and July 13, 2021 in the Angwin area of Napa county. The population was blooming and readily identifiable.
- Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*): a reference population was visited on April 28, 2020 and March 16, 2021 near Kelseyville in the Mt. Konocti area of Lake County. The plants were blooming and readily identifiable.

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 in the Survey Area was ranked based on the following criteria:

- None – Habitat is clearly unsuitable for the species requirements
- Low Potential - 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 Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- 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 Study Area. 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 2021), 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.

ASSESSMENT RESULTS

Because the Survey Area is small, the entire area was surveyed at a high intensity level. A map of the area surveyed (Study Area) can be found in Map #9, with a list of survey dates within Table 1.

Table 1: Survey Dates for Project Area

<u>Date</u>	<u>Survey Hours</u>	<u>Surveyor(s)</u>	<u>Primary Survey Completed</u>
18MAR20	30 minutes	Butler	NSO Nocturnal Survey
09APR20	30 minutes	Butler	NSO Nocturnal Survey
20APR20	30 minutes	Town	NSO Nocturnal Survey
28APR20	30 minutes	Morrison	NSO Nocturnal Survey
28APR20	3 hours	Morrison	Botanical Survey
13MAY20	30 minutes	Butler	NSO Nocturnal Survey
18MAY20	1 hour	Town	Wildlife Assessment
28MAY20	5 hours	Morrison	Botanical Survey
04JUN20	30 minutes	Butler	NSO Nocturnal Survey
17JUL20	2.5 hours	Morrison	Botanical Survey
POST GLASS FIRE:			
15MAR21	30 minutes	Morrison	NSO Nocturnal Survey
15MAR21	2 hours	Morrison	Botanical Survey
29MAR21	30 minutes	Morrison	NSO Nocturnal Survey
20APR21	30 minutes	Butler	NSO Nocturnal Survey
26APR21	4 hours	Town (2 Surveyors)	Wildlife Assessment
27APR21	30 minutes	Town	NSO Nocturnal Survey
10MAY21	30 minutes	Butler	NSO Nocturnal Survey
03JUN21	30 minutes	Butler	NSO Nocturnal Survey

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. 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 Study 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. 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.

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 Study Area (Map #3). Portions of the Study Area had all vegetation (trees, shrubs, and ground cover) burned while other areas burned the ground vegetation (shrubs and ground cover) and scarred the trees (some live overstory canopy remaining); photographs of the Study Area 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 2021, there is good new grass growth in spots and many hardwoods are stump sprouting. During the fall of 2021, a Notice of Emergency Timber Operations will be completed to remove the dead/dying trees after the wildfire.

Existing Disturbance Issues: The structures on the property were undergoing a remodel, and on occasions when this biologist was on-site, people could be seen and heard working on the buildings. Prior to the fire, there appeared to be firewood processing that occurred periodically including a gas-operated splitter and stacked piles. On the 26APR21 site visit, numerous sheep and guard dog were present on the northern portion of the property. Neighboring activity could be seen and heard while on the property in the form of: people working in vineyards, traffic on Silverado Trail Road, activity at residential houses, and large swath of vegetation removed along the power line. Portions of the property perimeter deer fence may have been burned during the Glass wildfire; however, it had been reestablished by mid-April.

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), the parcel, and the survey area (Map #6). 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 survey area, vegetation was thoroughly detailed and updated by ground truthing at an appropriate scale, and in some portions of the area, were different than the Napa County Vegetation Map layer (Map #7). 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 Study Area. Out of the 19 Sensitive Natural Communities included in the scoping list (Attachment #6), eight (8) were determined to have moderate to high potential to exist within the Survey Area or the Biological Research and Evaluation Area, with two (2) occurring within the Study Area.

The following Natural Communities are found within the Survey Area prior to the 2020 Glass Fire. An * delineates a Sensitive Natural Community.

- *Pseudotsuga menziesii* (Douglas-fir) Forest Alliance G5, S4 – 9.8 acres
- *Quercus agrifolia* (coast live oak) Alliance G5, S4 – 12.5 acres
- **Quercus lobata* (valley oak) Alliance, G3, S3 - .2 acres
- **Quercus garryana* (white oak) Alliance, G4, S3 - .1 acres
- *Avena bromus* (Wild Oak and Annual Grassland) Alliance, 3.3 acres
- Existing Vineyard, Structures & Infrastructures – 1.8 acres

***Pseudotsuga menziesii* (Douglas-fir) Alliance** – dominant or co-dominant in the tree canopy with *Arbutus menziesii* and *Quercus agrifolia*. Trees are generally less than 75 meters tall and the canopy is intermittent to continuous and may be two tiered. Shrubs are infrequent or common. Herbaceous layer is sparse or abundant. Within the survey area this Alliance was dominated by Douglas-fir with occasional scattering of coast live oak (*Quercus agrifolia*). This Alliance had a moderate to severe burn severity because of the 2020 Glass Fire. Douglas-fir in general do not fare well to intense fires on their shallow root systems nor to intense heat which can destroy their canopy. Most of these conifers succumbed to the fire and many are subject to removal from the Cal Fire Emergency Notice salvage logging permit that was submitted in 2021.

***Quercus agrifolia* (coast live oak) Alliance** - dominant or co-dominant in the upland tree canopy with *Arbutus menziesii*, *Quercus douglasii*, *Quercus kelloggii*, *Quercus lobata* and *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 gray pine, *Pinus sabiniana*. This Alliance was heavily burned in the 2020 Glass Fire, but many trees survived and those that did not have subsequently resprouted.

****Quercus lobata* (valley oak) Alliance** - dominant or co-dominant in the tree canopy with *Aesculus californica*, *Quercus agrifolia*, *Quercus douglasii* and *Quercus kelloggii*. 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 open and may include *Toxicodendron diversilobum*. Understory herbs include *Bromus diandrus* or/or *Bromus hordeaceus*; herbaceous layer may be grassy. Within the survey area, this Alliance is dominated almost exclusively by valley oak. This Alliance had a lower severity burn because of the 2020 Glass Fire. All of the valley oaks within this Alliance survived. This Alliance is outside the Project Area; therefore, no mitigation measures are proposed.

****Quercus garryana* (Oregon white oak) Alliance** - dominant or co-dominant in the tree canopy with *Pinus sabiniana*, *Pseudotsuga menziesii*, *Quercus kelloggii* and *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). Shrub layer is typically open; the herbaceous layer is open to intermittent and primarily grassy. Within the survey area, this Alliance was dominated by Oregon white oak, with listed co-dominants as well as madrone, *Arbutus menziesii*. This Alliance was heavily burned in the 2020 Glass Fire, but many trees survived and those that did not have subsequently resprouted. This Alliance is outside the Project Area; therefore, no mitigation measures are proposed.

***Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural (wild oats and annual brome grasslands) Alliance** - dominant or co-dominant with other non-natives in the herbaceous layer such as *Atriplex semibaccata* and *Hordeum* spp. This Alliance includes *Avena barbata*, *Avena fatua*, *Brachypodium distachyon*, *Briza maxima*, *Bromus diandrus*, *Bromus hordeaceus* and/or *Hordeum murinum*. Emergent trees and shrubs may be present at low cover. Herbs are generally less than 1.2 meters tall and the cover is open to continuous.

The Project Area has been designed to avoid impacts to sensitive natural communities found within the Study Area. There are two communities found within the Study Area designated as sensitive: White Oak (*Quercus garryana*) and Valley Oak (*Quercus lobata*). No sensitive natural communities would be impacted by vineyard development. See Table #2 for communities impacted.

Table #2: Plant Communities within Miller Project Area

Plant Communities	Block A (Acres)	Block B1 (Acres)	Block B2 (Acres)	Block B3 (Acres)	Block B Ave^ (Acres)	Acres Impacted (Acres)	Parcel Total (Acres)
Douglas-Fir (<i>Pseudotsuga menziesii</i>)	0	0	.5	.4	.5	1.4	9.8
Coast Live Oak (<i>Quercus agrifolia</i>)	0	.2	3	0	.8	4.0	12.5
*Valley Oak (<i>Quercus lobata</i>)	0	0	0	0	0	0	0.2
*White Oak (<i>Quercus garryana</i>)	0	0	0	0	0	0	0.1
Wild Oat & Annual Grassland (<i>Avena bromus</i>)	0	.1	.3	.1	.1	0.6	3.3
Ruderal (vineyards/houses/roads)	1	0	0	0	0	1.0	1.8
TOTAL ACRES	1	0.3	3.8	0.5	1.4	7.0	27.7

*Sensitive Plant Community

^Roads/Avenues between vines

NOTE: These are estimates to the nearest tenth and includes +/- the numbers listed

Aquatic Resources: There were no aquatic resource that showed up within the Study Area during the initial administrative review. During the field surveys, an assessment of potential aquatic resources was conducted.

Ephemeral Streams (CalFire Class III Watercourse): The Study Area contained two ephemeral stream (Map #10) that were not mapped on the 7.5-minute quadrangle. These ephemeral streams are located over 100' from the Project Area. Flows within the streams occur during and immediately following rain events, but disappear quickly after a storm has subsided. These watercourses do not have the potential to support salmonids or other special status fish species. Due to the distance to the Project Area, no further mitigation measures are proposed.

Special Status Species - Plants: Based upon a review of the resource databases (Attachment #2), seven (7) special-status plant species have been documented in the Biological Resources Evaluation Area. Four (4) of these plant species have the potential to occur in the Study Area with the remaining special status plants documented within the Biological Resources Assessment Area unlikely or have no potential to occur. The four plant species with a moderate to high potential to occur within the Study Area include:

- o Holly-leaved ceanothus
- o Calistoga ceanothus
- o Narrow-anthered brodiaea
- o Jepson's leptosiphon

The following discusses these target species in greater detail.

Narrow-anthered brodiaea (*Brodiaea leptandra*) – High Potential to Occur

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.

Holly-leaved ceanothus (*Ceanothus purpureus*) – High Potential to Occur

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. These plants do not have a State or Federal Listing but are listed by the California Native Plant Society as 1B.2.

Jepson's leptosiphon (*Leptosiphon jepsonii*) – High Potential to Occur

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.

Calistoga ceanothus (*Ceanothus divergens*) – Moderate Potential to Occur

Calistoga ceanothus is an evergreen shrub in the buckthorn family (Rhamnaceae). It is found between 350 to 3,120 feet in elevation. 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.

Impacts to mosses and lichens: No rare lichens or mosses were discovered within the Miller Study Area. The 2020 Glass Fire burned through the project area, killing off most existing moss and lichens within the area. Moss and lichens would be adversely affected by vineyard development; however, plant succession will continue outside the Project Area and eventually create more suitable habitat for mosses and lichens.

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). 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. Within the footprint of the 2017 Tubbs Fire, hollyleaf Ceanothus (*Ceanothus purpureus*) is dominating the landscape where formerly its likely populations were small due to a dense forest of bay laurel *Umbellularia californica* and pacific madrone (*Arbutus menziesii*).



French broom invasion, post Glass Fire, into a former forested area in nearby Calistoga area.

All plant species identified within the Study Area are listed in Attachment #3.

Special-Status Species - Wildlife: Based upon a review of the resource databases, 76 special-status wildlife species have the potential to occur within the Biological Resources Assessment Area (Attachment #4). Nine 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 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

Of the nine wildlife species with the potential to occur within the Study Area:

- Six have a moderate potential to occur within the Study Area
 - Olive-Sided Flycatcher
 - Purple Martin
 - Pallid Bat
 - Townsend's Big-Eared Bat
 - Western Red Bat
 - Hoary Bat
- One listed species has a low nesting/roosting potential; however, may be found foraging within or near the Study Area.
 - Northern Spotted Owl
- Two have marginal habitat present; however, for various reasons stated, there is a low potential they would be found within the Study Area.
 - Fringed Myotis
 - Long-Legged Myotis

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

Olive-Sided Flycatcher (*Contopus cooperi*) – Moderate Potential to Occur

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 is found within the Study Area and area immediately adjacent to the Study Area. The habitat may have been downgraded due to the Glass wildfire due to large swaths of overstory canopy cover burned and Emergency Notice of Timber Operations removing dead/dying trees. No Olive-Sided Flycatchers were observed within the study area.

Purple Martin (*Progne subis*) – Moderate Potential to Occur

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 Sonoma 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 is found within the Study Area. The CNDDDB lists numerous occurrences of purple martins within 5-miles of the Study Area. The impact of the Glass Wildfire may have improved the potential for nest sites (creation of snags and cavity trees); however, the Study Area was logged under an Emergency Notice in the Fall of 2021; thereby, removing dead and dying trees. No purple martins were observed within the study area.

Pallid Bat (*Antrozous pallidus*) – Moderate Potential to Occur

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 insects and arachnids, 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 does have habitat present for foraging and roosting (cavity trees and rock outcrop). The CNDDDB lists occurrences of Pallid Bats both within the BREA and 5-mile assessment area. Due to the Glass Wildfire, some burned hollow trees may have been created;

however, the Study Area will be logged under an Emergency Notice in the Fall of 2021; thereby, removing dead and dying trees. No bats were observed within the Study Area during nocturnal NSO surveys; however, a targeted bat survey was not completed under this assessment.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*) – Moderate Potential to Occur

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 does have habitat present for foraging and roosting sites (hollow trees, snags, large rock outcrop). The CNDDDB does list occurrences of Townsend's Big-Eared Bats both within the BREa and 5-mile assessment area. Due to the Glass Wildfire, some burned hollow trees may have been created increasing roosting sites; however, the Study Area will be logged under an Emergency Notice in the Fall of 2021; thereby, removing dead and dying trees. No bats were observed within the Study Area during nocturnal NSO surveys; however, a targeted bat survey was not completed under this assessment.

Western Red Bat (*Lasiurus blossevillei*) – Moderate Potential to Occur

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.

Project Area: The Study Area does 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 Study Area will be logged under an Emergency Notice in the Fall of 2021; thereby, removing dead and dying trees. No bats were observed within the Study Area during nocturnal NSO surveys; however, a targeted bat survey was not completed under this assessment.

Hoary Bat (*Lasiurus cinereus*) – Moderate Potential to Occur

Migration & Movement: The Hoary Bat is the most widespread North American bat and may be found at any location in California. They do migrate between summer and winter ranges, probably over long distances.

Habitat: Hoary Bats prefer open habitats or habitat mosaics, with access to trees for cover and open areas or edges for feeding. They feed primarily on moths, although various flying insects are taken. Hoary Bats generally roost in dense foliage of medium to large trees, with preferred sites to be hidden from above with few branches below, and have ground cover of low reflectivity. Females bear young while roosting in trees and may leave the young in the roosting sites when foraging. They do require water.

Breeding Season: Mates in the autumn, in migration, or on the wintering grounds. The young are born from mid-May through early July. The offspring are capable of flight after 33 days.

Potential Threats: Sensitive to disturbance of roosting sites. There is a high incidence of rabies in this species. There are no important predators, but owls probably prey on them. Competition with other moth specializing bats may occur.

Study Area: The Study Area does have habitat present for foraging and roosting sites. Due to the Glass Wildfire, some burned hollow trees may have been created increasing roosting sites; however, the Study Area will be logged under an Emergency Notice in the Fall of 2021; thereby, removing dead and dying trees. No bats were observed within the Study Area during nocturnal NSO surveys; however, a targeted bat survey was not completed under this assessment.

Northern Spotted Owl (*Strix occidentalis caurina*) – Low Nesting Potential but Foraging Possible

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: Nesting habitat is not present within the Study Area due to type and lack of canopy cover. Northern Spotted Owls might forage within the Study Area. No Northern Spotted Owls were detected within the Study Area, with nocturnal protocol surveys being completed.

Fringed Myotis (*Myotis thysanodes*) – Marginal Habitat, Low Potential to Occur

Migration & Movement: The bat, Fringed Myotis, is widespread in California. Their abundance appears to be irregular, being common in some areas and absent in others.

Habitat: Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 4000 – 7000 feet. Fringed myotis feed mostly on beetles but also on moths, arachnids, and orthopterans. They will roost in caves, mines, buildings, and crevices. Separate day and night roosts may be used; with adults and subadults forming separate groups in the roosts. Maternity colonies of up to 200 individuals are located in caves, mines, buildings or crevices. Require a water source.

Breeding Season: Mating occurs in the fall with the young being born from May through July, with peaks in late June. Young females are mature in their first year with males being mature in their second year. Fringed myotis are known to live for 18 years.

Potential Threats: Possible predators include owls and snakes. Disturbance at roosting sites.

Project Area: The Study Area does have marginal habitat present; however, may be below the optimal habitat elevational requirements. No bats were observed within the Study Area during nocturnal NSO surveys; however, a targeted bat survey was not completed under this assessment.

Long-Legged Myotis (*Myotis volans*) – Marginal Habitat, Low Potential to Occur

Migration & Movement: The bat, long-legged myotis, is common in California.

Habitat: The Long-Legged Myotis is most common in woodland and forest habitats above 4,000'. They will also forage in chaparral, coastal scrub, Great Basin shrub habitats, and in early successional stages of woodlands and forests. They feed on flying insects, primarily moths often over water, close to trees and cliffs, and in openings in woodlands and forests. This species is not particularly maneuverable. They will roost in rock crevices, buildings, under tree bark, in snags, mines, and caves. Separate day and night roosts may be used, with trees being the most important day roosts. This species forms nursery colonies numbering hundreds of individuals, usually under the bark or in hollow trees, but occasionally in crevices or buildings. This species drinks regularly.

Breeding Season: Mating occurs in the fall and the young are born in June and July. Large nursery colonies often occur. Year-old bats are capable of reproduction. The maximum recorded longevity is 21 years.

Potential Threats: Disturbance to roost sites.

Project Area: The Study Area does have marginal habitat present for foraging and roosting within tree cavities; however, may be located below the optimal elevational requirements. No bats were observed within the Study Area during nocturnal NSO surveys; however, a targeted bat survey was not completed under this assessment.

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.

Trees Serving as Raptor Nests, Bird Rookeries, and Bat Roosts: Bats were not observed during nocturnal northern spotted owl surveys and no active raptor nests or bat roosts were identified within the study area. No nests, wash, nest droppings, feathers, young, guano, or pellets were identified.

In May of 2020, a pair of red-shouldered hawks (*Buteo lineatus*) were observed in the area (Map #10). They were identified sitting on the main power-line just north of the Miller Property Boundary. They were also heard vocalizing and seen soaring over the valley bottom later that same day.

A few small stick nests (probable squirrel nests) were identified within the Study Area. These structures could be altered and used by raptors as nest sites; however, are currently showing no signs of raptor use. Mistletoe was also present within some of the trees, which could also be altered and used by raptors.

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 roosting bats; however, a CalFire Emergency Timber Operations Permit to remove burned dead/dying trees may remove these trees prior to species moving into the 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 top, 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. These structures could be used by roosting bats; however, a CalFire Emergency Timber Operations Permit to remove burned dead/dying trees may remove these trees prior to species moving into the area. No current bat use was visible.

Rookery: A bird rookery is a large, clustered nesting bird colony. Each nest is typically independent, with nearby parent birds caring for only their nesting. No Rookeries have been identified within the study area; therefore, no further recommendations are proposed for this feature.

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. A rocky outcrop was identified within 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 the study area; therefore, no further recommendations are proposed for this feature.

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 the survey area; therefore, no further recommendations are proposed for this feature.

Rocky Outcrop: Rocky Outcrop is a visible exposure of bedrock or superficial deposits on the earth's 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. Two areas of rocky outcrops have been identified within the study area. One site is large rocks clumped together and were probably more visible due to the recent wildfire removing all the vegetation around/between the rocks. This site may be suitable for basking reptiles or cover underneath for amphibians and reptiles. The second site is a larger rock structure with visible cracks and crevices. This site is suitable for basking reptiles or cover for amphibians and reptiles, and is potentially large enough to provide a roosting site for a few individual bats. Pictures are included within Attachment #1, and rock locations are mapped on Map #10. These unique rock-habitat elements are located west of B Vineyard Blocks and are approximately 300' from the Project Area. They are also located downslope and close to the Ephemeral Stream (Class III watercourse) on the western side of the property. Avoidance of impacts to these features to the fullest extent feasible is recommended.

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.

Currently the study area (property) is fenced, so movement of larger terrestrial wildlife species is already prohibited. Coyote scat was identified to the north of the Study Area, outside the perimeter fence. Birds, small mammals, insects, and plant seed can move through the deer fence. It is anticipated that no new fences will be installed as a result of this vineyard project.

Ephemeral Streams, even when dry, and associated vegetation within the Study Area presumably provide very localized movement and shelter habitat for common wildlife species. As such, avoidance of impacts to these water courses to the fullest extent feasible is recommended.

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 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.

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. Erosion Control Plan and Timber Conversion Plan setbacks and buffer zones are designed to provide protection for the watershed and resources.

The ephemeral streams will be avoided as part of the vineyard design. Although the ephemeral drainage near the Project Area does not meet the county definition of a stream, it would be considered a Class 3 watercourse under CalFire's Forest Practice Rules. The project area is set back greater than 100' from these watercourses.

The proposed project will result in the loss of almost 6 acres of woodland and has the potential to impact biological resources without appropriate avoidance and protection measures. The following recommendations are proposed to reduce potential impacts to wildlife and botanical species and habitat both on and immediately off-site.

Due to the impacts of the 2020 Glass Wildfire, a CalFire Emergency Timber Operations, will be completed in the fall of 2021. It is anticipated that approximately 40% of the overstory (dead and dying trees) within the Project Area and 20% of the overstory within the remaining Study Area will be removed (per Butler, RPF). Depending on the number of dead/dying trees that are removed, the listed recommendations may be altered (i.e. if it is deemed all trees must be removed, then there will no longer be any potential nesting/roost trees that should be surveyed prior to Project operations).

- **The Study Area should be revisited by the Biologist/Botanist after the Emergency Timber Operations have been completed to assess post-fire logging habitat. To address Napa County's request of results of post logging field visit (Attachment #8).**

On July 12, 2022; Heather Morrison (Botanist) visited the Miller Project Area. This site visit took place after the CalFire Emergency Notice of Timber Operations. The purpose of the visit was to determine what, if any, of the overstory canopy remained post fire/post logging. Approximately 40% of the overstory canopy cover was removed due to logging dead/dying trees within the Project Area, with 20% of the overstory canopy covered removed outside the Project Area (per Scott Butler, RPF). The entire property had little to no ground vegetation (shrubs and forbs) both pre and post fire and logging. There have been sheep grazing on the property, which removes ground vegetation. Within the Project Area footprint, the site has always and still is "park-like", with a little more multi-tied vegetation on the steeper slopes (outside the project area), although the sheep did have access to this area as well.

The following pictures were taken on 12JUL22:



Southern portion of Block B2 and Block B1



Within Block B2 looking West



Within Block B2 and looking north toward Block B3

As portions of the overstory canopy are still present, the Project Recommendations within this Report should still be followed. This would include searching for nesting raptors, nesting listed/sensitive songbirds (purple martins, olive-sided flycatcher), and roosting bats prior to earthmoving activities.

- **The Project could have the potential to impact nesting raptors by direct tree removal.**

Recommendation: If tree removal is anticipated during 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 (purple martins, olive-sided flycatchers).

Surveys for nesting birds should be conducted within 14 days prior to tree removal or ground breaking on the Project site. If an active nest is located near the Project Area or Project Area access routes, 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 or until it is determined by the biologist that all the young have fledged or 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 has the potential to impact Purple Martins and Olive-Sided Flycatcher nesting habitat by direct tree removal.**

Recommendation: If tree removal is anticipated during primary bird nesting season (01MAR – 31JUL) a preconstruction survey will be necessary. The preconstruction survey can be combined with the nesting bird survey recommended above. To include the 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 will impact Northern Spotted Owl Habitat.**

Recommendation: Northern Spotted Owl surveys are required. The protocol survey requires a minimum of 2 years of surveys prior to tree removal when harvesting within northern spotted owl habitat, with surveys required in each year harvest activities are to occur. Two years of protocol surveys have been completed (2020 and 2021 breeding seasons) with no northern spotted owls or barred owls detected. A separate northern spotted owl assessment report has been completed specifically for this Project and is within Attachment #9.

- **The Project has the potential to impact roosting bats.**

Recommendation: If initial ground disturbance occurs during the bat maternity roosting season (01MAY – 30AUG), a preconstruction potential bat roosting tree survey will be necessary. The preconstruction survey shall consider all potential bat roosting trees within 500' of earthmoving activities and related project construction activities. The surveyor will flag and map trees that could potentially be used by roosting bats. If no suitable tree roosting habitat is detected, then no further surveys will be warranted.

If a maternal roosting site is found within or immediately adjacent to the Project boundary, then those trees shall be removed between 15AUG – 15OCT or before evening temperatures fall below 45-degree Fahrenheit and/or more than 1" of rainfall within 24 hours occurs; OR remove trees between 28FEB and 15APR.

If potential roosting trees are found and subject to removal as part of the proposed project, they should be removed over the course of two days. On the first day, as late in the day as possible, some limbs may be removed (if there are any) as well as other nearby trees not flagged as potential bat roosting habitat. This amount of disturbance should cause any roosting bats to find another roost during their nighttime foraging. As the potentially roosting bats will have left over the course of the night, the rest of the tree can be harvested on the second day, as late in the day as possible.

Due to the distance (300') and topography, the large rock outcrop to the west of Block B does not require bat surveys. The site will not be disturbed by Project activities.

- **Wildlife Fencing is currently in place. If fencing is altered:**

Recommendation: Deer fencing should be designed with at least 2 gates and limited to vineyard blocks to allow larger wildlife species to freely move through the area. Any additional deer fencing should use 6" square mesh at the base instead of the traditional 3" X 6" rectangular openings to allow smaller mammals and birds to move through the fence.

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.

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. Used interchangeably with BRAA (Biological Resources Assessment Area)
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
CFGF	California Fish & Game Code
CFR	Code of Federal Regulations
CNDDDB	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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Weather and Climate website. Available at: <http://www.weather-and-climate.com/10-ten-day-forecast-fahrenheit>

Western Bat Working Group (WBWG). 2021. Species Accounts. Available at: <http://www.wbwg.org> Accessed: June 2021.

Maps

Map #1 = Vicinity Map

Map #2 = Engineers Project Map(s)

Map #3 = Glass Wildfire Perimeter (GIS source: CalFire)

Map #4 = Study Area – Topographic

Map #5 = Study Area – Aerial

Map #6 = BREa Vegetation Map (GIS source: Calveg)

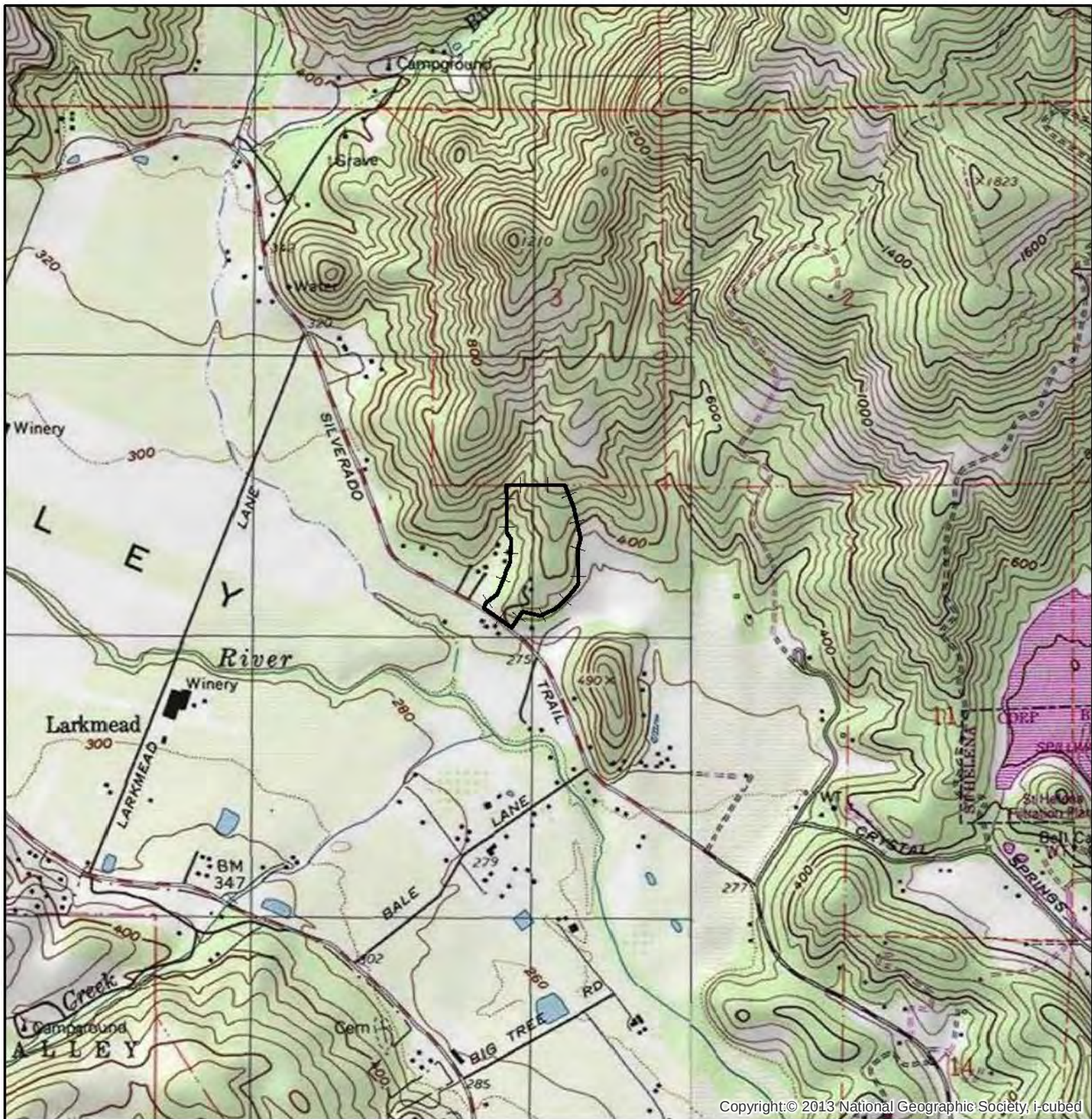
Map #7 = Study Area Vegetation Map

Map #8 = Post Wildfire Map (Google Earth)

Map #9 = Survey Routes

Map #10 = Location of Special Interest Areas Identified

Vicinity Map - Miller Project



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Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County



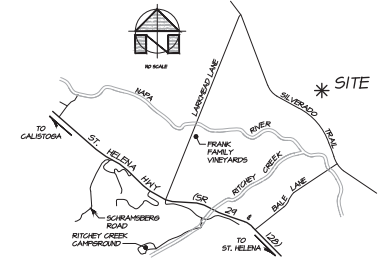
1 inch = 2,000 feet
Date: 10/21/2021
Appendix B

MILLER VINEYARD

TRACK I VINEYARD DEVELOPMENT AND EROSION CONTROL PLAN



OVERALL SITE PLAN
SCALE: 1" = 100'



LOCATION MAP
NO SCALE

PROJECT INFORMATION:

PROPERTY OWNER:
HENRY & BONNIE MILLER,
MILLER REVOCABLE TRUST
3122 MT. DIABLO BOULEVARD
LAFAYETTE, CA 94549

PROJECT APPLICANT:
SILVERADO FARMING, INC.,
C/O PETE RICHMOND
390 TAYLOR STREET
NAPA, CA 94554
(707) 251-9081

PROJECT ADDRESS:
3906 SILVERADO TRAIL
CALISTOGA, CA 94515

ASSESSOR'S PARCEL NUMBER:
021-030-006

PARCEL SIZE:
21.76+ ACRES

PARCEL ZONING:
AM

SHEET INDEX:

SHEET EC1 OVERALL SITE PLAN
SHEET EC2 NOTES SHEET
SHEET EC3 SITE PLAN
SHEET EC4 FARMING PRACTICES EXHIBIT
SHEET EC5 EROSION CONTROL PLAN
SHEET EC6 DETAIL SHEET
SHEET EC7 10% VEGETATION RETENTION EXHIBIT
SHEET EC8 10% SLOPE ANALYSIS EXHIBIT

EDWARDS ENGINEERING
SHEET I
DIP IRRIGATION SYSTEM

FEMA FLOOD DATA:

THIS PROJECT IS LOCATED WITHIN A FLOODPLAIN PER FLOOD INSURANCE RATE MAP (FIRM) PANEL NO. 060502040E, DATED SEPTEMBER 26, 2008. ZONE "X" IS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD IN AN UNINCORPORATED AREA OF NAPA COUNTY.

/// /// /// /// FLOODPLAIN DELINEATION BOUNDARY

AERIAL NOTE:

THE 2018 AERIAL PHOTOGRAPH USED AS A BASE FOR THIS PLAN WAS PROVIDED BY NAPA COUNTY. ALL PROPERTY LINES, BUILDINGS, UTILITIES, WASTEWATER SYSTEM LOCATIONS, DIMENSIONS, AND DESCRIPTIONS SHOWN HEREON ARE APPROPRIATE AND SHALL BE VERIFIED IN THE FIELD.

TIMBER OPERATIONS NOTE:

A TIMBER CONVERSION PLAN (TCP) IS BEING APPLIED FOR THROUGH THE STATE OF CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION.



PREPARED UNDER THE DIRECTION OF

Richard Patton
RICHARD PATTON 01-25-2023

NO.	DATE	DESCRIPTION	EC1	KIK
			SHEETS	BY

BARTLETT ENGINEERING
1001 Adams Street, Suite 200, Napa, CA 94559
www.bartlettingeom.com
Telephone: 707-259-1001

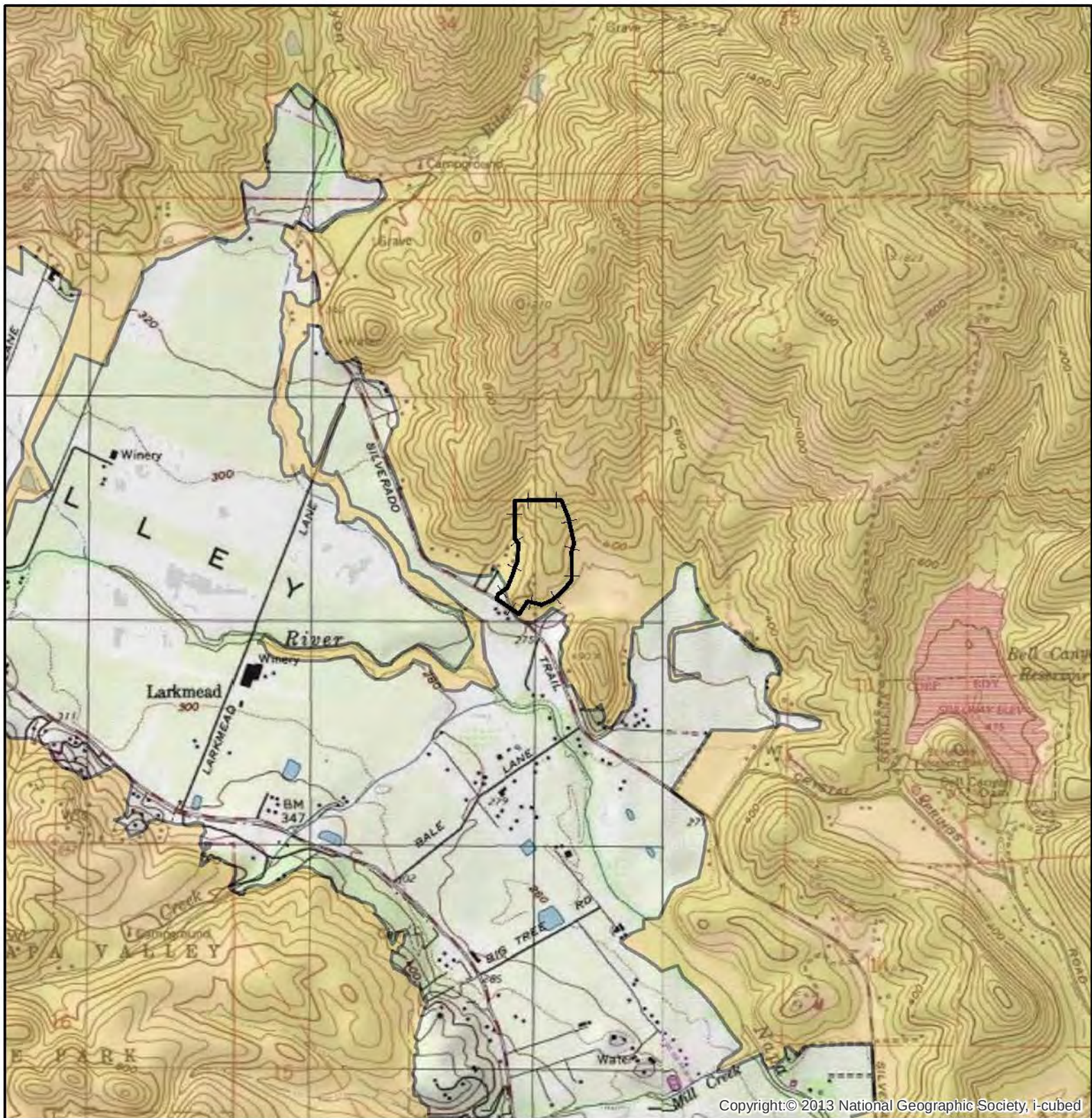
CALIFORNIA

**MILLER VINEYARD
OVERALL SITE PLAN**

NAPA COUNTY

DATE: MAY 2022
JOB NO: 20-10
SHEET NO: **EC1**
OF 8

2020 Glass Wildfire Perimeter - Miller Project



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Legend

-  Property Boundary
-  Glass Wildfire (Year 2020)

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

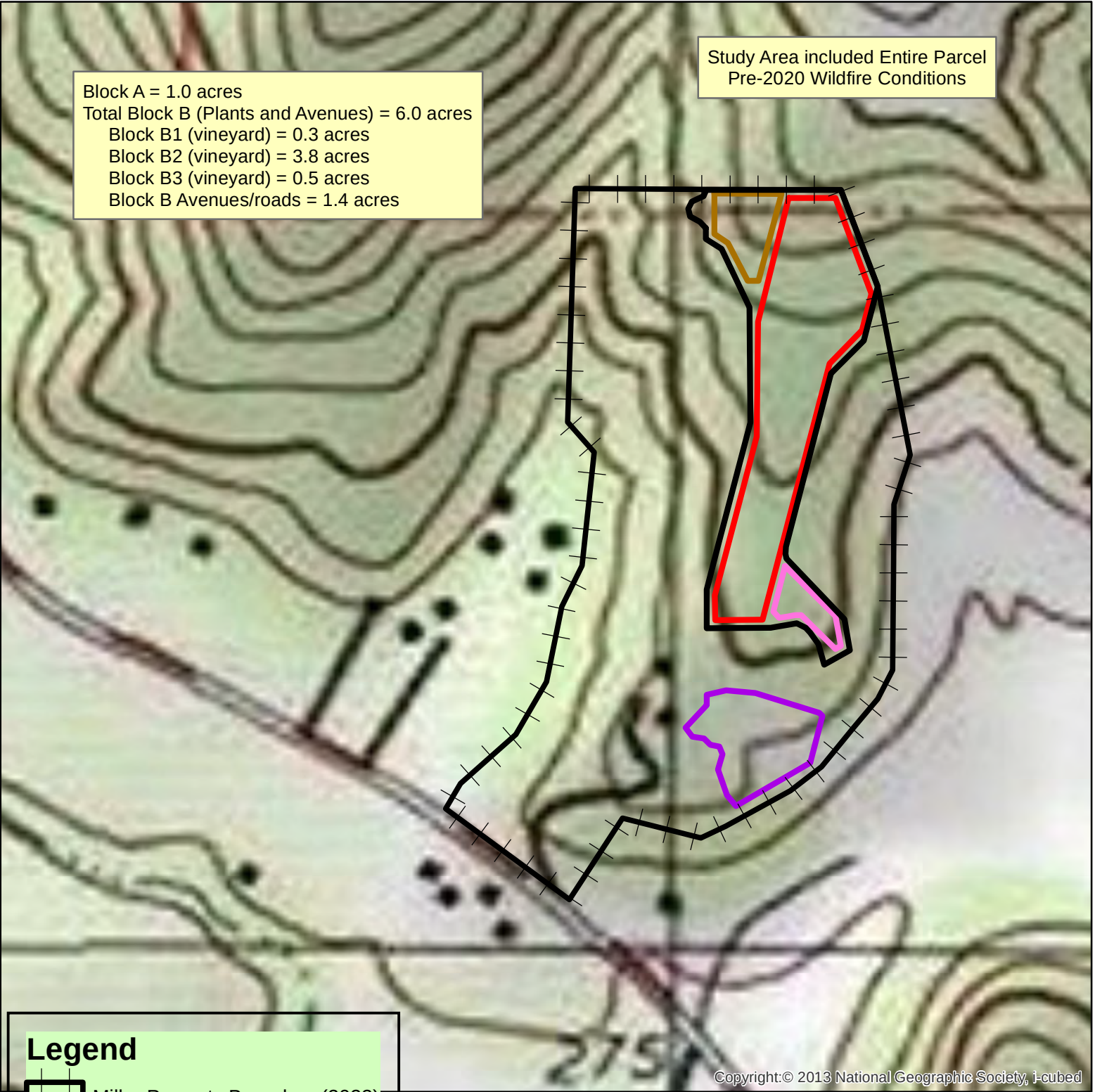
Forest Ecosystem Management
Page 46



1 inch = 2,500 feet

Date: 10/21/2021
Appendix B

Miller Project - Study Area



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- Block A Existing
- Block B1 (2023)
- Block B2 (2023)
- Block B3 (2023)

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

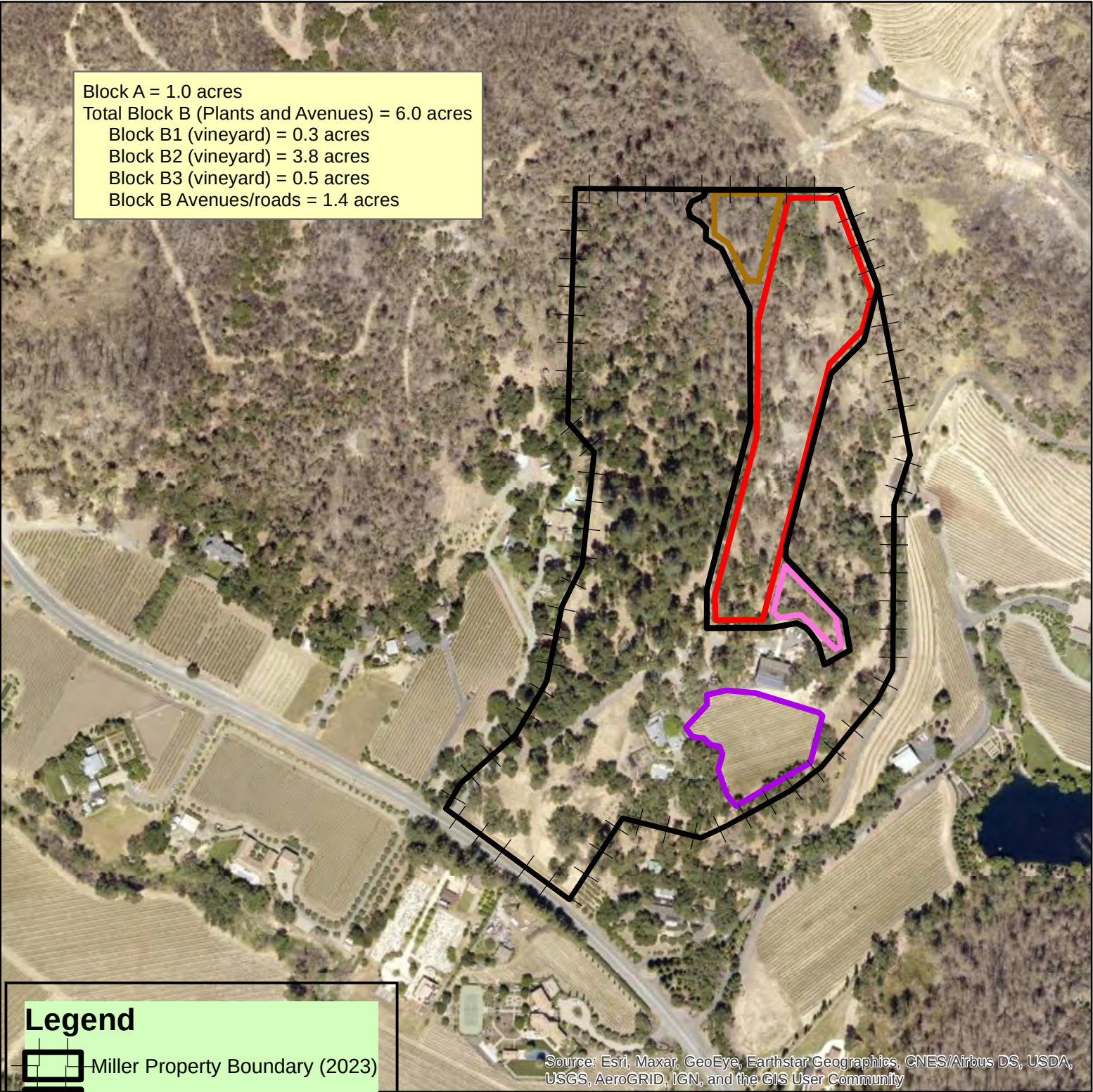
Forest Ecosystem Management



1 inch = 417 feet

Date: 3/23/2023

Miller Project - Study Area



Legend

Miller Property Boundary (2023)

Miller Conversion Area

Block A Existing

Block B1 (2023)

Block B2 (2023)

Block B3 (2023)

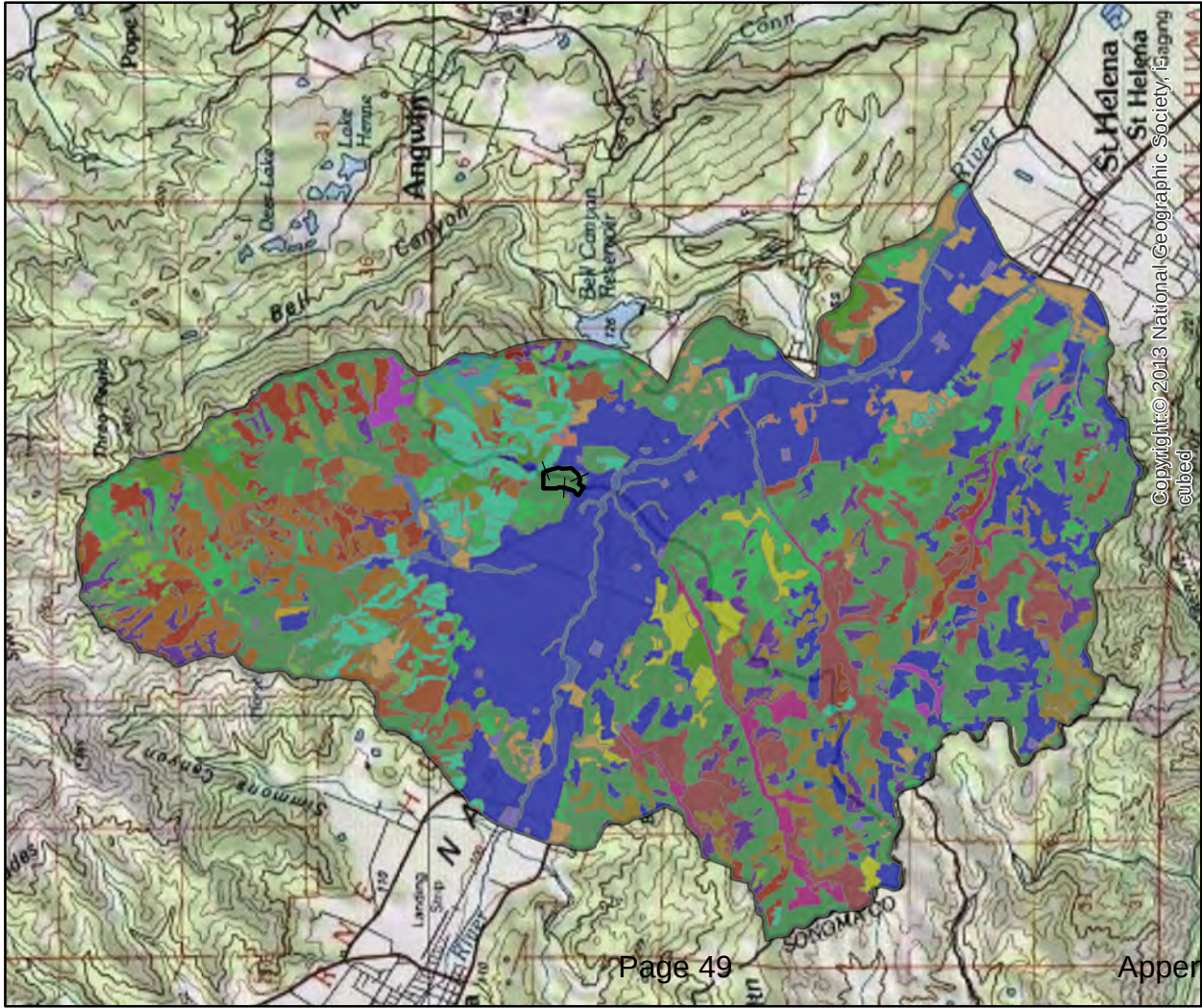
Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County



1 inch = 417 feet
Date: 3/23/2023

BREA Vegetation Types - Miller Project

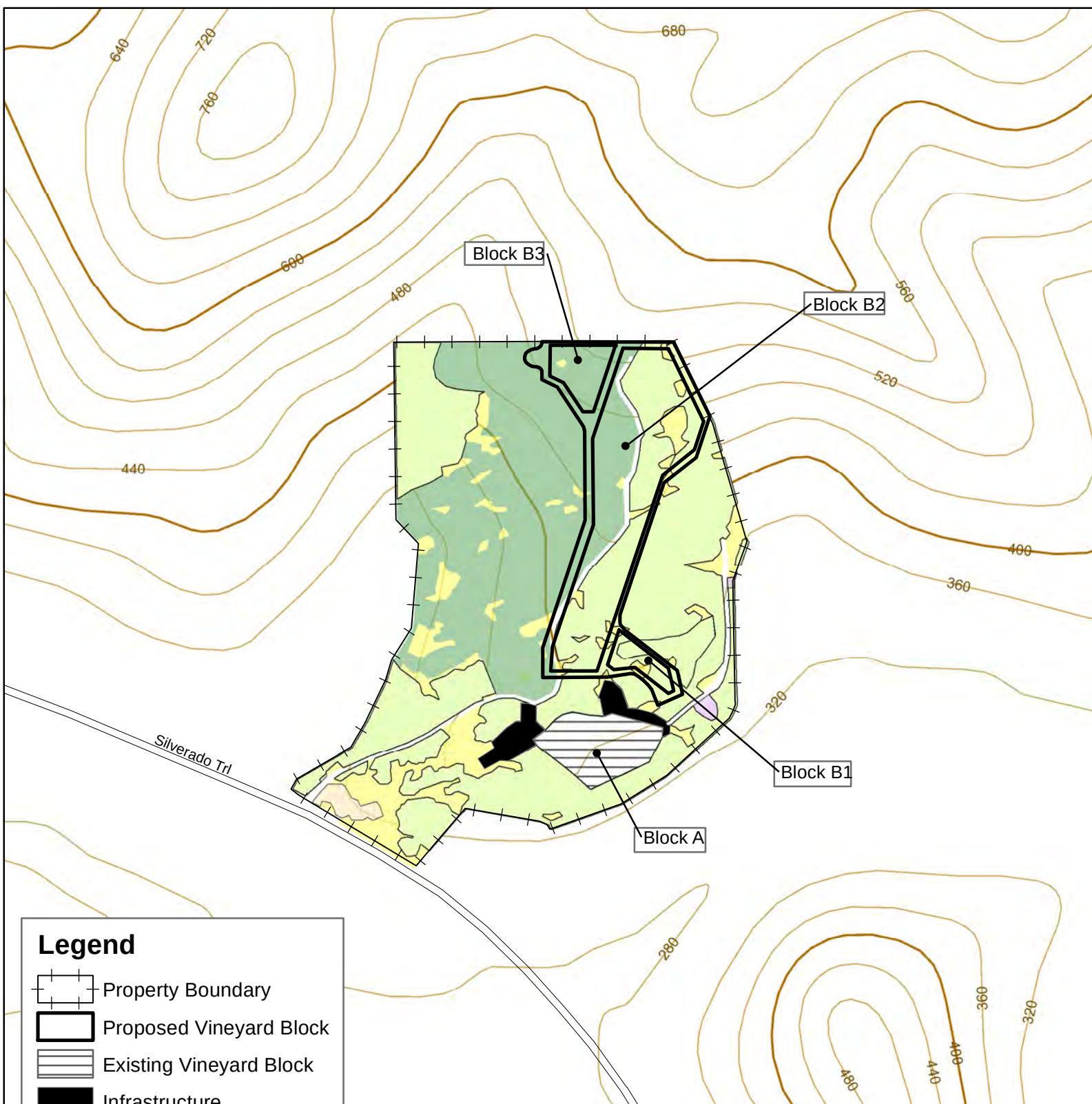
Map #6



Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County
1 inch = 9,818 feet
Date: 10/25/2021
Forest Ecosystem Management

Legend	
	Property Boundary
	Miller BREA
BREA Vegetation Type	
	<all other values>
MapClass	
	Agriculture
	Black Oak Alliance
	Blue Oak Alliance
	California Annual Grasslands Alliance
	California Bay - Leather Oak - (Rhamnus spp.) Mesic Serpentine NFD Super Alliance
	California Bay - Madrone - Coast Live Oak - (Black Oak Big - Leaf Maple) NFD Super Alliance
	Chamise Alliance
	Coast Live Oak - Blue Oak - (Foothill Pine) NFD Association
	Coast Live Oak Alliance
	Coast Redwood - Douglas-fir / California Bay NFD Association
	Coast Redwood Alliance
	Douglas-fir - Ponderosa Pine Alliance
	Douglas-fir Alliance
	Eucalyptus Alliance
	Foothill Pine Alliance
	Knobcone Pine Alliance
	Leather Oak - California Bay - Rhamnus spp. Mesic Serpentine NFD Alliance
	Leather Oak - White Leaf Manzanita - Chamise Xeric Serpentine NFD Super Alliance
	Mixed Manzanita - (Interior Live Oak - California Bay - Chamise) West County NFD Alliance
	Mixed Oak Alliance
	Mixed Willow Super Alliance
	Oregon White Oak Alliance
	Rock Outcrop
	Unknown
	Upland Annual Grasslands & Forbs Formation
	Urban or Built-up
	Vacant
	Valley Oak - (California Bay - Coast Live Oak - Walnut - Ash) Riparian Forest NFD Association
	Valley Oak Alliance
	Water
	White Alder (Mixed Willow - California Bay - Big Leaf Maple) Riparian Forest NFD Association

Vegetative Communities - Miller Project



Legend

-  Property Boundary
-  Proposed Vineyard Block
-  Existing Vineyard Block
-  Infrastructure
-  *Pseudotsuga menziesii*
-  *Quercus lobata*
-  *Quercus garryana*
-  *Quercus agrifolia*
-  *Avena-Bromus*

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County



1 inch = 417 feet

Date: 3/23/2023
Appendix B
Appendix B

Miller Project Area - Post 2020 Glass Wildfire

Section 10 T08N, R06W MDB&M - Napa County

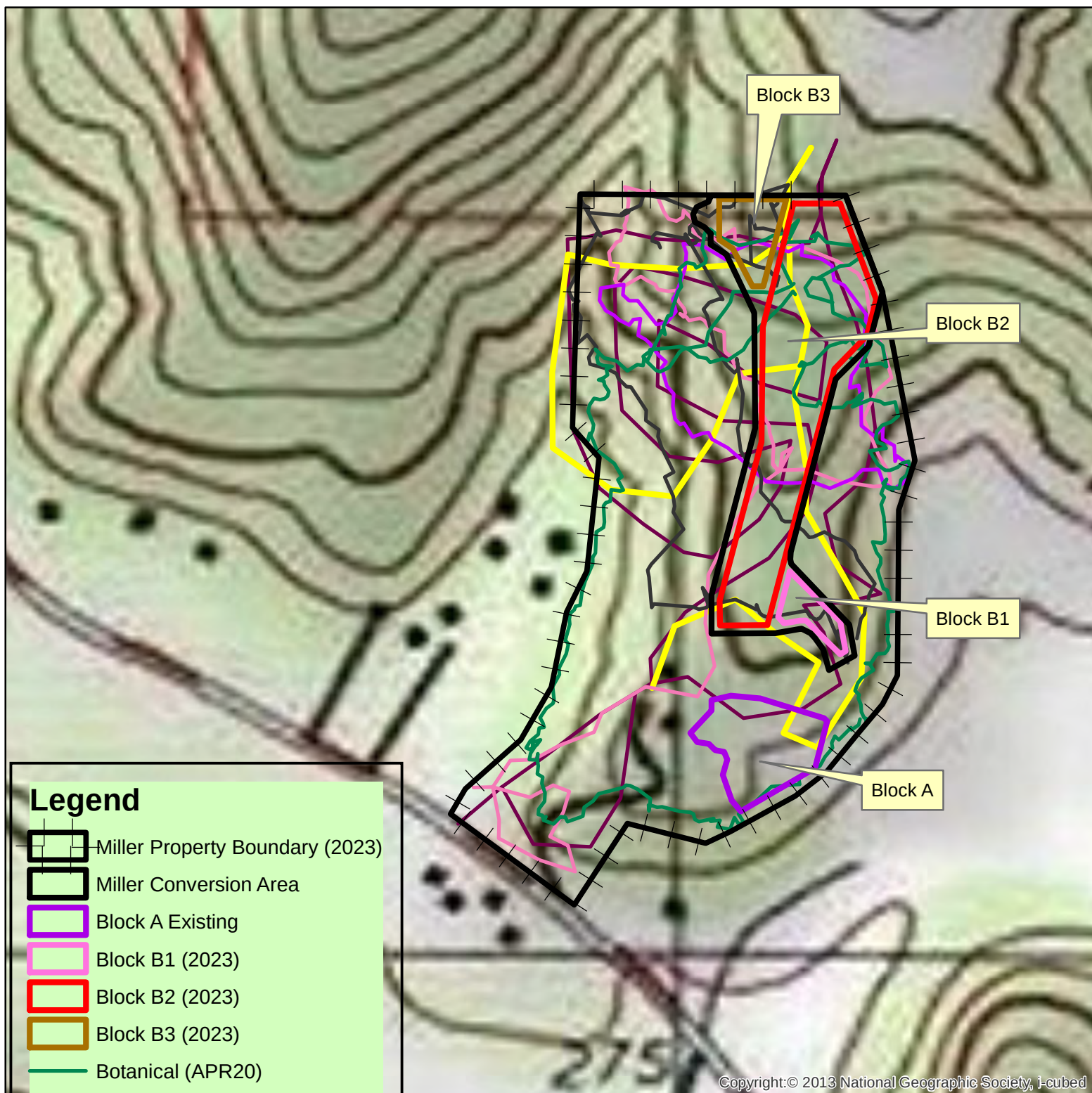
Map #8

Legend

Miller property boundary



Survey Route Map - Miller Project

**Legend**

- Miller Property Boundary (2023)
- Miller Conversion Area
- Block A Existing
- Block B1 (2023)
- Block B2 (2023)
- Block B3 (2023)
- Botanical (APR20)
- Botanical (MAY20)
- Botanical (JUL20)
- Botanical (MAR21)
- Biological (MAY20)
- Biological (APR21)

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

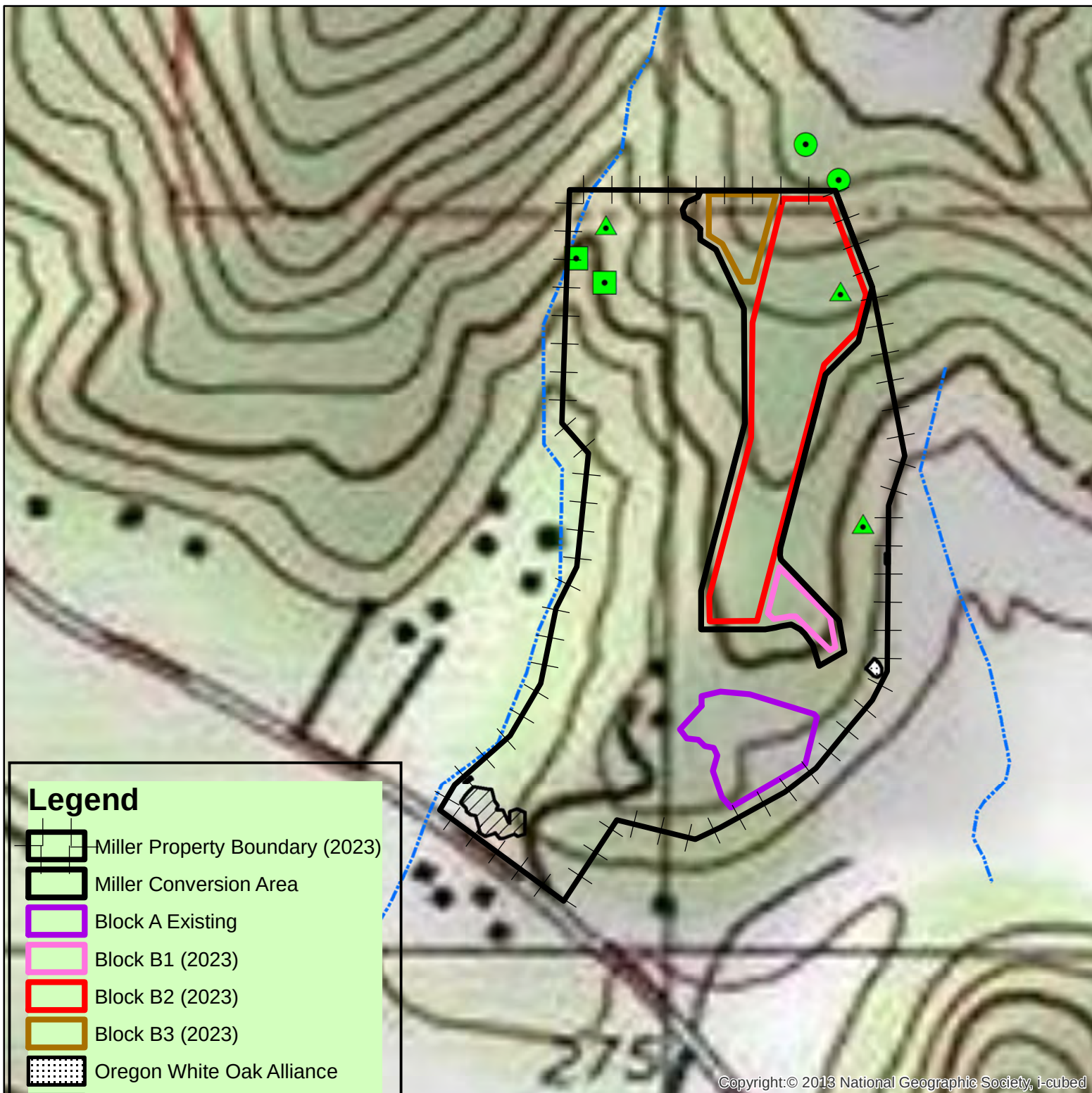


1 inch = 417 feet

Date: 3/23/2023

Forest Ecosystem Management

Location of Special Interests - Miller Project



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- Block A Existing
- Block B1 (2023)
- Block B2 (2023)
- Block B3 (2023)
- Oregon White Oak Alliance
- Valley Oak Alliance
- Bird Wash (No Nest)
- Red-Shoulder Hawk (2020)
- Rocks
- Watercourses - Class III

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management &
Salix Natural Resource Management



1 inch = 417 feet
Date: 3/24/2023

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 = Reference Material Including:

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

Attachment #8 = Napa County Application Completeness Determination

Attachment #9 = Northern Spotted Owl Report

Photos of Miller Project Area
3906 Silverado Trail; Calistoga, CA
Photos Taken: 2021

Project Area (Block B Site) – Post 2020 Glass Wildfire



Project Area – Looking Toward Silverado Road



Project Area



Wildlife Habitat Element – Cluster of Large Rocks (Vegetation around rocks burned during 2020 Glass wildfire)



Wildlife Habitat Element – Large Rock Outcrop (Potential Habitat for bats, reptiles)



Same Rock Outcrop as above





Class III watercourse on the west side of the parcel. When photo taken on 27APR21, no water was present. Shrub and tree vegetation along sides were consumed by 2020 Glass Wildfire. Large rocks within the water channel. Property Deer fence close to this watercourse.

Wildlife Habitat Element Created by 2020 Glass Wildfire. Fire was within the tree and cavity has formed. Inside of the cavity was approximately 2' up the middle of the tree. There were no live leaves on the tree.





Wildlife Habitat Element
Created by the 2020 Glass
Wildfire. Fire was inside
the tree as the cavity is
burned. Western Fence
Lizard basking on the tree
next to cavity.

Wildlife Habitat
Element created by
2020 Glass Wildfire.
Fire was within the
root system of many
trees. Burned holes in
the ground present
throughout. Duff layer
burned. Soil was gray
in some areas.





Mistletoe in burned Douglas-fir

Project Area



Table - Botanical Scoping List ¹ for Miller ECP, Napa County, 94 meters - 161 meters

Scientific Name	Common Name	Lifeform	CRPR ²	GRank ³	SRank ⁴	CESA ⁵	FESA ⁶	Blooming Period	Habitat	Micro Habitat	Elevation Range (m)	Likelihood of Occurrence at Project Site
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	perennial bulbiferous herb	1B.2	G5T2	S2	None	None	(Apr)May-Jun	Cismontane woodland, Valley and foothill grassland	clay, volcanic, often serpentinite	52-305	High. Not detected during surveys. Species not found.
<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	Sonoma alopecurus	perennial herb	1B.1	G5T1	S1	None	FE	May-Jul	Marshes and swamps (freshwater), Riparian scrub		5-365	Low. Absence of typical habitat and vegetation associates. Species not found.
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	perennial deciduous shrub	1B.2	G4T2	S2	None	None	Apr-Jul	Broadleafed upland forest (openings), Chaparral, Cismontane woodland		50-2000	High. Not detected during surveys. Species not found.
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	annual herb	1B.2	G3	S3	None	None	Mar-Jun	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland		3-500	High. Not detected during surveys. Species not found.
<i>Anomobryum julaceum</i>	slender silver moss	moss	4.2	G5?	S2	None	None		Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	damp rock and soil on outcrops, usually on roadcuts	100-1000	Low. Not detected during surveys. Species not found.
<i>Antirrhinum virga</i> **	twig-like snapdragon	perennial herb	4.3	G3?	S3?	None	None	Jun-Jul	Chaparral, Lower montane coniferous forest	rocky, openings, often serpentinite	100-2015	Low. Absence of typical habitat. Species not found.
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	perennial evergreen shrub	1B.3	G5T3	S3	None	None	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest	volcanic	395-1615	Low. Outside of elevational range. Species not found.
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon Ridge manzanita	perennial evergreen shrub	1B.1	G3T1	S1	None	None	Feb-Apr(May)	Chaparral (rhylitic), Cismontane woodland		75-370	Low. Absence of typical habitat. Species not found.
<i>Asclepias solanoana</i> **	serpentine milkweed	perennial herb	4.2	G3	S3	None	None	May-Jul(Aug)	Chaparral, Cismontane woodland, Lower montane coniferous forest	serpentinite	230-1860	Low. Absence of typical micro habitat. Outside of elevational range. Species not found.
<i>Astragalus breweri</i> **	Brewer's milk-vetch	annual herb	4.2	G3	S3	None	None	Apr-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland (open, often gravelly)	often serpentinite, volcanic	90-730	Low. Absence of typical micro habitat. Species not found.
<i>Astragalus claranus</i> ****	Clara Hunt's milk-vetch	annual herb	1B.1	G1	S1	CT	FE	Mar-May	Chaparral (openings), Cismontane woodland, Valley and foothill grassland	serpentinite or volcanic, rocky, clay	75-275	High. Not detected during surveys. Species not found.
<i>Astragalus clevelandii</i> ***	Cleveland's milk-vetch	perennial herb	4.3	G4	S4	None	None	Jun-Sep	Chaparral, Cismontane woodland, Riparian forest	serpentinite seeps	200-1500	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	annual herb	1B.2	G4T3	S3	None	None	Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	often serpentinite	295-700	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	perennial herb	1B.2	G2	S2	None	None	Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	sometimes serpentinite	45-1555	High. Not detected during surveys. Species not found.

Table - Botanical Scoping List ¹ for Miller ECP, Napa County, 94 meters - 161 meters

Scientific Name	Common Name	Lifeform	CRPR ²	GRank ³	SRank ⁴	CESA ⁵	FESA ⁶	Blooming Period	Habitat	Micro Habitat	Elevation Range (m)	Likelihood of Occurrence at Project Site
<i>Blennosperma bakeri</i>	Sonoma sunshine	annual herb	1B.1	G1	S1	CE	FE	Mar-May	Valley and foothill grassland (mesic), Vernal pools		10-110	High. Not detected during surveys. Species not found.
<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	perennial bulbiferous herb	1B.2	G3?	S3?	None	None	May-Jul	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland	volcanic	110-915	High. Not detected during surveys. Species not found.
<i>Calamagrostis ophitidis</i> **	serpentine reed grass	perennial herb	4.3	G3	S3	None	None	Apr-Jul	Chaparral (open, often north-facing slopes), Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland	serpentinite, rocky	90-1065	High. Not detected during surveys. Species not found.
<i>Calandrinia breweri</i> **	Brewer's calandrinia	annual herb	4.2	G4	S4	None	None	(Jan)Mar-Jun	Chaparral, Coastal scrub	sandy or loamy, disturbed sites and burns	10-1220	Moderate. Absence of typical habitat. Not detected during surveys. Species not found.
<i>Calochortus uniflorus</i> **	pink star-tulip	perennial bulbiferous herb	4.2	G4	S4	None	None	Apr-Jun	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest		10-1070	Moderate. Absence of typical habitat. Not detected during surveys. Species not found.
<i>Calyptridium quadripetalum</i> **	four-petaled pussypaws	annual herb	4.3	G4	S4	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest	sandy or gravelly, usually serpentinite	315-2040	Low. Outside of elevational range. Species not found.
<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Mt. Saint Helena morning-glory	perennial rhizomatous herb	4.2	G4T3	S3	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest, Valley and foothill grassland	serpentinite	279-1010	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Calystegia collina</i> ssp. <i>venusta</i> **	South Coast Range morning-glory	perennial rhizomatous herb	4.3	G4T4	S4	None	None	Apr-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	serpentinite or sedimentary	270-1490	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Castilleja ambigua</i> var. <i>ambigua</i> **	johnny-nip	annual herb (hemiparasitic)	4.2	G4T4	S3S4	None	None	Mar-Aug	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools margins		0-435	High. Not detected during surveys. Species not found.
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	perennial evergreen shrub	1B.1	G1	S1	None	None	Feb-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland	volcanic or serpentinite	75-1065	Moderate. Not detected during surveys. Species not found.
<i>Ceanothus divergens</i>	Calistoga ceanothus	perennial evergreen shrub	1B.2	G2	S2	None	None	Feb-Apr	Chaparral (serpentinite or volcanic, rocky)		170-950	Moderate. Absence of typical habitat. Not detected during surveys. Species not found.
<i>Ceanothus gloriosus</i> var. <i>exaltatus</i> **	glory brush	perennial evergreen shrub	4.3	G4T4	S4	None	None	Mar-Jun(Aug)	Chaparral		30-610	High. Not detected during surveys. Species not found.

Table - Botanical Scoping List ¹ for Miller ECP, Napa County, 94 meters - 161 meters

Scientific Name	Common Name	Lifeform	CRPR ²	GRank ³	SRank ⁴	CESA ⁵	FESA ⁶	Blooming Period	Habitat	Micro Habitat	Elevation Range (m)	Likelihood of Occurrence at Project Site
<i>Ceanothus purpureus</i>	holly-leaved ceanothus	perennial evergreen shrub	1B.2	G2	S2	None	None	Feb-Jun	Chaparral, Cismontane woodland	volcanic, rocky	120-640	High. Not detected during surveys. Species not found.
<i>Ceanothus sonomensis</i>	Sonoma ceanothus	perennial evergreen shrub	1B.2	G2	S2	None	None	Feb-Apr	Chaparral (sandy, serpentinite or volcanic)		215-800	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Centromadia parryi</i> ssp. parryi	pappose tarplant	annual herb	1B.2	G3T2	S2	None	None	May-Nov	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and foothill grassland (vernally mesic)	often alkaline	0-420	High. Not detected during surveys. Species not found.
<i>Clarkia breweri</i> **	Brewer's clarkia	annual herb	4.2	G4	S4	None	None	Apr-Jun	Chaparral, Cismontane woodland, Coastal scrub	often serpentinite	215-1115	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Clarkia gracilis</i> ssp. tracyi**	Tracy's clarkia	annual herb	4.2	G5T3	S3	None	None	Apr-Jul	Chaparral (openings, usually serpentinite)		65-650	Moderate. Not detected during surveys. Species not found.
<i>Collomia diversifolia</i> **	serpentine collomia	annual herb	4.3	G4	S4	None	None	May-Jun	Chaparral, Cismontane woodland	serpentinite, rocky or gravelly	200-600	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Cordylanthus tenuis</i> ssp. brunneus**	serpentine bird's-beak	annual herb (hemiparasitic)	4.3	G4G5T3	S3	None	None	Jul-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland	usually serpentinite	305-915	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Cryptantha dissita</i>	serpentine cryptantha	annual herb	1B.2	G2	S2	None	None	Apr-Jun	Chaparral (serpentinite)		395-580	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Cypripedium montanum</i> **	mountain lady's-slipper	perennial rhizomatous herb	4.2	G4	S4	None	None	Mar-Aug	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest		185-2225	Moderate. Outside of elevational range. Species not found.
<i>Delphinium uliginosum</i> **	swamp larkspur	perennial herb	4.2	G3	S3	None	None	May-Jun	Chaparral, Valley and foothill grassland	serpentinite seeps	340-610	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Downingia pusilla</i>	dwarf downingia	annual herb	2B.2	GU	S2	None	None	Mar-May	Valley and foothill grassland (mesic), Vernal pools		1-445	High. Not detected during surveys. Species not found.
<i>Erigeron biolettii</i> **	streamside daisy	perennial herb	3	G3?	S3?	None	None	Jun-Oct	Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest	rocky, mesic	30-1100	High. Not detected during surveys. Species not found.
<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	perennial herb	1B.2	G3	S3	None	None	May-Sep	Chaparral (serpentinite or volcanic)		80-1005	Low. Absence of typical habitat. Species not found.

Table - Botanical Scoping List ¹ for Miller ECP, Napa County, 94 meters - 161 meters

Scientific Name	Common Name	Lifeform	CRPR ²	GRank ³	SRank ⁴	CESA ⁵	FESA ⁶	Blooming Period	Habitat	Micro Habitat	Elevation Range (m)	Likelihood of Occurrence at Project Site
<i>Eriogonum nervulosum</i>	Snow Mountain buckwheat	perennial rhizomatous herb	1B.2	G2	S2	None	None	Jun-Sep	Chaparral (serpentinite)		300-2105	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i> **	bay buckwheat	perennial herb	4.2	G5T3	S3	None	None	Jul-Sep	Cismontane woodland, Lower montane coniferous forest	rocky, often serpentinite	700-2200	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Eryngium constancei</i> -****	Loch Lomond button-celery	annual / perennial herb	1B.1	G1	S1	CE	FE	Apr-Jun	Vernal pools		460-855	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Eryngium jepsonii</i>	Jepson's coyote thistle	perennial herb	1B.2	G2?	S2?	None	None	Apr-Aug	Valley and foothill grassland, Vernal pools	clay	3-300	High. Not detected during surveys. Species not found.
<i>Erythronium helenae</i> **	St. Helena fawn lily	perennial bulbiferous herb	4.2	G3	S3	None	None	Mar-May	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland	volcanic or serpentinite	350-1220	Low. Outside of elevational range. Species not found.
<i>Fritillaria liliacea</i>	fragrant fritillary	perennial bulbiferous herb	1B.2	G2	S2	None	None	Feb-Apr	Cismontane woodland, Coastal scrub, Valley and foothill grassland	Often serpentinite	3-410	Moderate. Absence of micro habitat. Species not found.
<i>Fritillaria pluriflora</i>	adobe-lily	perennial bulbiferous herb	1B.2	G2G3	S2S3	None	None	Feb-Apr	Chaparral, Cismontane woodland, Valley and foothill grassland	often adobe	60-705	Moderate. Absence of micro habitat. Species not found.
<i>Fritillaria purdyi</i> **	Purdy's fritillary	perennial bulbiferous herb	4.3	G4	S4	None	None	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest	usually serpentinite	175-2255	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	annual herb	1B.2	G2	S2	CE	None	Apr-Aug	Marshes and swamps (lake margins), Vernal pools	clay		Moderate. Absence of typical habitat. Species not found.
<i>Harmonia hallii</i>	Hall's harmonia	annual herb	1B.2	G2?	S2?	None	None	(Mar) Apr-Jun	Chaparral (serpentinite)		305-975	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Harmonia nutans</i> **	nodding harmonia	annual herb	4.3	G3	S3	None	None	Mar-May	Chaparral, Cismontane woodland	rocky or gravelly, volcanic	75-975	High. Not detected during surveys. Species not found.
<i>Helianthus exilis</i> **	serpentine sunflower	annual herb	4.2	G3	S3	None	None	Jun-Nov	Chaparral, Cismontane woodland	serpentinite seeps	150-1525	Low. Absence of micro habitat. Species not found.

Table - Botanical Scoping List ¹ for Miller ECP, Napa County, 94 meters - 161 meters

Scientific Name	Common Name	Lifeform	CRPR ²	GRank ³	SRank ⁴	CESA ⁵	FESA ⁶	Blooming Period	Habitat	Micro Habitat	Elevation Range (m)	Likelihood of Occurrence at Project Site
<i>Hemizonia congesta</i> ssp. <i>congesta</i>	congested-headed hayfield tarplant	annual herb	1B.2	G5T2	S2	None	None	Apr-Nov	Valley and foothill grassland	sometimes roadsides	20-560	High. Not detected during surveys. Species not found.
<i>Hesperaloe bicarpellatum</i>	two-carpellate western flax	annual herb	1B.2	G2	S2	None	None	(Apr) May-Jul	Chaparral (serpentine)		60-1005	Low. Absence of typical habitat. Species not found.
<i>Hesperaloe sharsmithiae</i>	Sharsmith's western flax	annual herb	1B.2	G2Q	S2	None	None	May-Jul	Chaparral	serpentine	270-300	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Iris longipetala</i> **	coast iris	perennial rhizomatous herb	4.2	G3	S3	None	None	Mar-May (Jun)	Coastal prairie, Lower montane coniferous forest, Meadows and seeps	mesic	0-600	Moderate. Absence of typical habitat. Not detected during surveys. Species not found.
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	annual herb	1B.2	G3	S3	None	None	Apr-Jul	Chaparral, Great Basin scrub, Lower montane coniferous forest, Meadows and seeps, Vernal pools		300-2040	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Lasthenia burkei</i> ****	Burke's goldfields	annual herb	1B.1	G1	S1	CE	FE	Apr-Jun	Meadows and seeps (mesic), Vernal pools		15-600	Low. Absence of typical habitat. Species not found.
<i>Lasthenia conjugens</i> **	Contra Costa goldfields	annual herb	1B.1	G1	S1	None	FE	Mar-Jun	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools	mesic	0-470	High. Not detected during surveys. Species not found.
<i>Layia septentrionalis</i>	Colusa layia	annual herb	1B.2	G2	S2	None	None	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland	sandy, serpentine	100-1095	Moderate. Not detected during surveys. Species not found.
<i>Leptosiphon acicularis</i> **	bristly leptosiphon	annual herb	4.2	G4?	S4?	None	None	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland		55-1500	High. Not detected during surveys. Species not found.
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	annual herb	1B.2	G2G3	S2S3	None	None	Mar-May	Chaparral, Cismontane woodland, Valley and foothill grassland	usually volcanic	100-500	High. Not detected during surveys. Species not found.
<i>Lessingia hololeuca</i> **	woolly-headed lessingia	annual herb	3	G3?	S2S3	None	None	Jun-Oct	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland	clay, serpentine	15-305	High. Not detected during surveys. Species not found.
<i>Lilium bolanderi</i> **	Bolander's lily	perennial bulbiferous herb	4.2	G4	S3S4	None	None	Jun-Jul	Chaparral, Lower montane coniferous forest	serpentine	30-1600	Low. Absence of micro habitat. Species not found.
<i>Lilium rubescens</i> --	redwood lily	perennial bulbiferous herb	4.2	G3	S3	None	None	Apr-Aug(Sep)	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	Sometimes serpentine, sometimes roadsides	30-1910	High. Not detected during surveys. Species not found.

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Scientific Name	Common Name	Lifeform	CRPR ²	GRank ³	SRank ⁴	CESA ⁵	FESA ⁶	Blooming Period	Habitat	Micro Habitat	Elevation Range (m)	Likelihood of Occurrence at Project Site
<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	annual herb	4.2	G4T4	S3	None	None	Mar-May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools	vernally mesic	60-1335	High. Not detected during surveys. Species not found.
<i>Limnanthes vincularis</i>	Sebastopol meadowfoam	annual herb	1B.1	G1	S1	CE	FE	Apr-May	Meadows and seeps, Valley and foothill grassland, Vernal pools	vernally mesic	15-305	High. Not detected during surveys. Species not found.
<i>Lomatium repostum</i> **	Napa lomatium	perennial herb	4.3	G3	S3	None	None	Mar-Jun	Chaparral, Cismontane woodland	serpentinite	90-830	Low. Absence of micro habitat. Species not found.
<i>Lupinus sericatus</i>	Cobb Mountain lupine	perennial herb	1B.2	G2?	S2?	None	None	Mar-Jun	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest		275-1525	Low. Outside of elevational range. Species not found.
<i>Micropus amphibolus</i> **	Mt. Diablo cottonweed	annual herb	3.2	G3G4	S3S4	None	None	Mar-May	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland	rocky	45-825	High. Not detected during surveys. Species not found.
<i>Microseris paludosa</i>	marsh microseris	perennial herb	1B.2	G2	S2	None	None	Apr-Jun(Jul)	Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland		5-355	High. Not detected during surveys. Species not found.
<i>Monardella viridis</i> **	green monardella	perennial rhizomatous herb	4.3	G3	S3	None	None	Jun-Sep	Broadleafed upland forest, Chaparral, Cismontane woodland		100-1010	High. Not detected during surveys. Species not found.
<i>Navarretia cotulifolia</i> **	cotula navarretia	annual herb	4.2	G4	S4	None	None	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	adobe	4-1830	High. Not detected during surveys. Species not found.
<i>Navarretia heterandra</i> **	Tehama navarretia	annual herb	4.3	G4	S4	None	None	Apr-Jun	Valley and foothill grassland (mesic), Vernal pools		30-1010	High. Not detected during surveys. Species not found.
<i>Navarretia jepsonii</i> **	Jepson's navarretia	annual herb	4.3	G4	S4	None	None	Apr-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	serpentinite	175-855	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	annual herb	1B.1	G4T2	S2	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools	Mesic	5-1740	High. Not detected during surveys. Species not found.
<i>Navarretia leucocephala</i> ssp. <i>pliantha</i>	many-flowered navarretia	annual herb	1B.2	G4T1	S1	CE	FE	May-Jun	Vernal pools (volcanic ash flow)		30-950	Low. Absence of typical habitat. Species not found.
<i>Navarretia myersii</i> ssp. <i>deminuta</i>	small pincushion navarretia	annual herb	1B.1	G2T1	S1	None	None	Apr-May	Vernal pools (clay loam)		355	Low. Absence of typical habitat. Species not found.
<i>Navarretia paradoxinota</i>	Porter's navarretia	annual herb	1B.3	G2	S2	None	None	May-Jun(Jul)	Meadows and seeps	Serpentinite, openings, vernally mesic, often drainages	165-840	Low. Absence of micro habitat. Outside of elevational range. Species not found.

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<i>Navarretia rosulata</i>	Marin County navarretia	annual herb	1B.2	G2	S2	None	None	May-Jul	Closed-cone coniferous forest, Chaparral	serpentinite, rocky	200-635	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Orobanche valida</i> ssp. <i>howellii</i> **	Howell's broomrape	perennial herb (parasitic)	4.3	G4T3	S3	None	None	Jun-Sep	Chaparral (serpentinite or volcanic)		180-1740	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	perennial herb	1B.3	G4T2	S2	None	None	Apr-Aug	Chaparral (rocky)		700-1370	Low. Outside of elevational range. Species not found.
<i>Plagiobothrys strictus</i> ****	Calistoga popcornflower	annual herb	1B.1	G1	S1	CT	FE	Mar-Jun	Meadows and seeps, Valley and foothill grassland, Vernal pools	alkaline areas near thermal springs	90-160	Low. Absence of micro habitat. Species not found.
<i>Poa napensis</i> ****	Napa blue grass	perennial herb	1B.1	G1	S1	CE	FE	May-Aug	Meadows and seeps, Valley and foothill grassland	alkaline, near thermal springs	100-200	Low. Absence of micro habitat. Species not found.
<i>Puccinellia simplex</i>	California alkali grass	annual herb	1B.2	G3	S2	None	None	Mar-May	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools	Alkaline, vernal mesic; sinks, flats, and lake margins	2-930	Low. Absence of micro habitat. Species not found.
<i>Ranunculus lobbii</i> **	Lobb's aquatic buttercup	annual herb (aquatic)	4.2	G4	S3	None	None	Feb-May	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools	mesic	15-470	High. Not detected during surveys. Species not found.
<i>Senecio clevelandii</i> var. <i>clevelandii</i> *	Cleveland's ragwort	perennial herb	4.3	G4?T3Q	S3	None	None	Jun-Jul	Chaparral (serpentinite seeps)		365-900	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Sidalcea hickmanii</i> ssp. <i>napensis</i>	Napa checkerbloom	perennial herb	1B.1	G3T1	S1	None	None	Apr-Jun	Chaparral	rhyolitic	415-610	Low. Outside of elevational range. Species not found.
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	perennial herb	1B.2	G5T2	S2	None	None	(Jun)Jul-Aug	Meadows and seeps, Riparian forest	mesic	1100-2300	Low. Outside of elevational range. Species not found.
<i>Sidalcea oregana</i> ssp. <i>valida</i>	Kenwood Marsh checkerbloom	perennial rhizomatous herb	1B.1	G5T1	S1	CE	FE	Jun-Sep	Marshes and swamps (freshwater)		115-150	Low. Absence of typical habitat. Species not found.
<i>Spergularia macrotheca</i> var. <i>longistyla</i>	long-styled sand-spurrey	perennial herb	1B.2	G5T2	S2	None	None	Feb-May(Jun)	Meadows and seeps, Marshes and swamps	Alkaline	0-255	Low. Absence of micro habitat. Species not found.
<i>Streptanthus batrachopus</i> **	Tamalpais jewelflower	annual herb	1B.3	G2	S2	None	None	Apr-Jul	Closed-cone coniferous forest, Chaparral	serpentinite	305-650	Low. Absence of micro habitat. Outside of elevational range. Species not found.

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<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	Socrates Mine jewelflower	perennial herb	1B.2	G2T1	S1	None	None	May-Jun	Closed-cone coniferous forest, Chaparral	usually serpentinite	545-1000	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	Freed's jewelflower	perennial herb	1B.2	G2T2	S2	None	None	May-Jul	Chaparral, Cismontane woodland	serpentinite	490-1220	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Streptanthus hesperidis</i>	green jewelflower	annual herb	1B.2	G2	S2	None	None	May-Jul	Chaparral (openings), Cismontane woodland	serpentinite, rocky	130-760	High. Not detected during surveys. Species not found.
<i>Streptanthus morrisonii</i> ssp. <i>elatus</i>	Three Peaks jewelflower	perennial herb	1B.2	G2T1	S1	None	None	Jun-Sep	Chaparral (serpentinite)		90-815	Low. Absence of typical habitat. Species not found.
<i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i> **	Kruckeberg's jewelflower	perennial herb	1B.2	G2T1	S1	None	None	Apr-Jul	Cismontane woodland (serpentinite)		215-1035	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Streptanthus vernalis</i>	early jewelflower	annual herb	1B.2	G1	S1	None	None	Mar-May	Closed-cone coniferous forest, Chaparral	serpentinite	610	Low. Absence of micro habitat. Outside of elevational range. Species not found.
<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	slender-leaved pondweed	perennial rhizomatous herb (aquatic)	2B.2	G5T5	S2S3	None	None	May-Jul	Marshes and swamps (assorted shallow freshwater)		300-2150	Low. Absence of typical habitat. Outside of elevational range. Species not found.
<i>Toxicoscordion fontanum</i> **	marsh zigadenus	perennial bulbiferous herb	4.2	G3	S3	None	None	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps	vernally mesic, often serpentinite	15-1000	Low. Absence of micro habitat. Species not found.
<i>Trichostema ruygii</i>	Napa bluecuris	annual herb	1B.2	G1G2	S1S2	None	None	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools		30-680	High. Not detected during surveys. Species not found.
<i>Trifolium amoenum</i>	two-fork clover	annual herb	1B.1	G1	S1	None	FE	Apr-Jun	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite)		5-415	High. Not detected during surveys. Species not found.
<i>Trifolium buckwestiorum</i>	Santa Cruz clover	annual herb	1B.1	G2	S2	None	None	Apr-Oct	Broadleafed upland forest, Cismontane woodland, Coastal prairie	gravelly, margins	105-610	High. Not detected during surveys. Species not found.
<i>Trifolium hydrophilum</i>	saline clover	annual herb	1B.2	G2	S2	None	None	Apr-Jun	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools		0-300	High. Not detected during surveys. Species not found.
<i>Triquetrella californica</i>	coastal triquetrella	moss	1B.2	G2	S2	None	None		Coastal bluff scrub, Coastal scrub	soil	10-100	Low. Absence of typical habitat. Species not found.

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<i>Viburnum ellipticum</i>	oval-leaved viburnum	perennial deciduous shrub	2B.3	G4G5	S3?	None	None	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest		215-1400	Low. Outside of elevational range. Species not found.

¹ February 2021 CNDDDB, CNPS Calistoga, Mount St. Helena, Detert Reservoir, Aetna Springs, Mark West Springs, St. Helena, Santa Rosa, Kenwood and Rutherford USGS 7.5' Quadrangle Maps

² CRPR = California Rare Plant Ranking

³ NatureServe Global Ranking

⁴ NatureServe State Ranking

⁵ CE = California Endangered, CT = California Threatened

⁶ FE = Federally Endangered, FT = Federally Threatened

* CNDDDB List only

** CNPS List only

*** IPaC List only

**** CNDDDB, CNPS and IPaC Lists

Scientific Name	Inside Project Area?	Common Name	Family	Origin	Cal IPC
Lichens					
<i>Hypogymnia imshaugii</i>	No	Imshaug's tube	PARMELIACEAE	Native	
<i>Hypogymnia</i>	No	deflated tube	PARMELIACEAE	Native	
<i>Parmotrema hypotropum</i>	No	powdered ruffle	PARMELIACEAE	Native	
<i>Platismatia glauca</i>	No	varied rag lichen	PARMELIACEAE	Native	
<i>Usnea fragilesceus</i>	No	inflated beard	PARMELIACEAE	Native	
<i>Ramalina menziesii</i>	No	lace lichen	RAMALINACEAE	Native	
<i>Ramalina pollinaria</i>	No	chalky ramalina	RAMALINACEAE	Native	
<i>Ramalina subleptocarpha</i>	No	slit-rimmed ramalina	RAMALINACEAE	Native	
Ferns and their Allies					
<i>Polypodium glycyrrhiza</i>	No	licorice fern	POLYPODIACEAE	Native	
<i>Adiantum jordanii</i>	No	California maidenhair fern	PTERIDACEAE	Native	
<i>Pentagramma triangularis ssp. triangularis</i>	No	gold-backed fern	PTERIDACEAE	Native	
Conifers					
<i>Pinus ponderosa</i>	No	Ponderosa pine	PINACEAE	Native	
<i>Pinus sabiniana</i>	No	ghost pine	PINACEAE	Native	
<i>Pseudotsuga menziesii</i>	No	Douglas-fir	PINACEAE	Native	
Dicots					
<i>Anthriscus caucalis</i>	Yes	bur-chervil	APIACEAE	Non-native	
<i>Daucus pusillus</i>	No	wild carrot	APIACEAE	Native	
<i>Sanicula crassicaulis</i>	Yes	pacific snakeroot	APIACEAE	Native	
<i>Torilis arvensis</i>	Yes	tall sock destroyer	APIACEAE	Native	
<i>Asclepias cordifolia</i>	No	purple milkweed	APOCYNACEAE	Native	
<i>Vinca major</i>	No	periwinkle	APOCYNACEAE	Non-native	Moderate
<i>Aristolochia californica</i>	No	pipe vine	ARISTOLOCHIACEAE	Native	
<i>Anaphalis margaritaceae</i>	No	pearly everlasting	ASTERACEAE	Native	
<i>Anisocarpus madiodes</i>	No	woodland madia	ASTERACEAE	Native	
<i>Carduus pycnocephalus</i>	No	Italian thistle	ASTERACEAE	Non-native	Moderate
<i>Centaurea solstitialis</i>	No	yellow starthistle	ASTERACEAE	Non-native	High
<i>Eriophyllum lanatum var. achilloides</i>	Yes	yarrow-leaved sunflower	ASTERACEAE	Native	
<i>Euchiton involucratus</i>	No	star cotton leaf	ASTERACEAE	Non-native	
<i>Gamochaeta ustulata</i>	No	purple cudweed	ASTERACEAE	Native	
<i>Helminthotheca echioides</i>	Yes	Bristly ox-tongue	ASTERACEAE	Non-native	Limited
<i>Hieracium albiflorum</i>	No	hawkweed	ASTERACEAE	Native	
<i>Hypochaeris glabra</i>	Yes	smooth cats ear	ASTERACEAE	Non-native	
<i>Hypochaeris radicata</i>	Yes	hairy cats ear	ASTERACEAE	Non-native	Moderate
<i>Lactuca serriola</i>	No	prickly lettuce	ASTERACEAE	Non-native	
<i>Leontodon saxatilis ssp. saxatilis</i>	No	hawkbit	ASTERACEAE	Non-native	
<i>Madia anomala</i>	No	plump seeded tarweed	ASTERACEAE	Native	
<i>Madia exigua</i>	No	small tarweed	ASTERACEAE	Native	

<i>Pseudognaphalium californicum</i>	No	ladies tobacco	ASTERACEAE	Native	
<i>Pseudognaphalium luteoalbum</i>	Yes	Jersey cudweed	ASTERACEAE	Non-native	
<i>Pseudognaphalium microcephalum</i>	Yes	Wright's cudweed	ASTERACEAE	Native	
<i>Pseudognaphalium thermale</i>	Yes	small-headed cudweed	ASTERACEAE	Native	
<i>Senecio vulgaris</i>	Yes	common butterweed	ASTERACEAE	Non-native	
<i>Silybum marianum</i>	Yes	milkthistle	ASTERACEAE	Non-native	Limited
<i>Sonchus asper ssp. asper</i>	No	prickly sow thistle	ASTERACEAE	Non-native	
<i>Sonchus oleraceus</i>	Yes	common sow thistle	ASTERACEAE	Non-native	
<i>Taraxacum officinale</i>	Yes	dandelion	ASTERACEAE	Non-native	
<i>Adelina grande</i>	Yes	hound's tongue	BORAGINACEAE	Native	
<i>Amsinckia retrorsa</i>	Yes	rigid fiddleneck	BORAGINACEAE	Native	
<i>Nemophila parviflora var. parviflora</i>	No	small-flowered nemophila	BORAGINACEAE	Native	
<i>Brassica nigra</i>	Yes	black mustard	BRASSICACEAE	Non-native	Moderate
<i>Brassica rapa var. rapa</i>	No	mustard	BRASSICACEAE	Non-native	Limited
<i>Capsella bursa-pastoris</i>	No	shepherd's purse	BRASSICACEAE	Non-native	
<i>Cardamine hirsuta</i>	No	hairy bittercress	BRASSICACEAE	Non-native	
<i>Hirschfeldia incana</i>	No	summer mustard	BRASSICACEAE	Non-native	Moderate
<i>Raphanus raphanistrum</i>	No	jointed charlock	BRASSICACEAE	Non-native	
<i>Raphanus sativus</i>	No	jointed charlock	BRASSICACEAE	Non-native	Limited
<i>Lonicera hispidula var. vacillans</i>	No	hairy honeysuckle	CAPRIFOLIACEAE	Native	
<i>Symphoricarpos albus var. laevigatus</i>	No	common snowberry	CAPRIFOLIACEAE	Native	
<i>Cerastium arvense ssp. strictum</i>	No	field chickweed	CARYOPHYLLACEAE	Native	
<i>Cerastium fontanum ssp. vulgare</i>	No	common chickweed	CARYOPHYLLACEAE	Non-native	
<i>Petrorhagia dubia</i>	No	windmill pink	CARYOPHYLLACEAE	Non-native	
<i>Silene menziesii</i>	No	Menzie's campion	CARYOPHYLLACEAE	Native	
<i>Arbutus menziesii</i>	No	madrone	ERICACEAE	Native	
<i>Arctostaphylos glandulosa ssp. glandulosa</i>	No	Eastwood manzanita	ERICACEAE	Native	
<i>Arctostaphylos stanfordiana ssp. stanfordiana</i>	No	Stanford's manzanita	ERICACEAE	Native	
<i>Euphorbia peplus</i>	No	petty spurge	EUPHORBIACEAE	Non-native	
<i>Acmispon glaber</i>	Yes	deerweed	FABACEAE	Native	
<i>Acmispon parviflorus</i>	Yes	rose-flowered lotus	FABACEAE	Native	
<i>Genista monspessulana</i>	No	French broom	FABACEAE	Non-native	High
<i>Lathyrus latifolius</i>	No	everlasting pea	FABACEAE	Non-native	Watch

<i>Lathyrus vestitus</i> var. <i>ochropetalus</i>	Yes	wood pea	FABACEAE	Native	
<i>Lupinus bicolor</i>	Yes	miniature lupine	FABACEAE	Native	
<i>Lupinus formosus</i> var. <i>robustus</i>	No	giant western lupine	FABACEAE	Native	
<i>Medicago polymorpha</i>	No	bur clover	FABACEAE	Native	Limited
<i>Melilotus indicus</i>	Yes	sourclover	FABACEAE	Non-native	
<i>Trifolium ciliolatum</i>	Yes	foothill clover	FABACEAE	Native	
<i>Trifolium fragiferum</i>	Yes	strawberry clover	FABACEAE	Non-native	
<i>Trifolium hirtum</i>	Yes	rose clover	FABACEAE	Native	
<i>Trifolium willdenovii</i>	No	Tomcat clover	FABACEAE	Native	
<i>Vicia benghalensis</i>	Yes	purple vetch	FABACEAE	Native	
<i>Vicia sativa</i> ssp. <i>sativa</i>	Yes	common vetch	FABACEAE	Non-native	
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	No	coast live oak	FAGACEAE	Native	
<i>Quercus garryana</i> var. <i>garryana</i>	No	Oregon white oak	FAGACEAE	Native	
<i>Quercus kelloggii</i>	No	black oak	FAGACEAE	Native	
<i>Erodium botrys</i>	Yes	big heron bill	GERANIACEAE	Non-native	
<i>Geranium core-core</i>	No	Alderney crane-bill	GERANIACEAE	Non-native	
<i>Geranium molle</i>	Yes	dovefoot geranium	GERANIACEAE	Non-native	
<i>Geranium robertianum</i>	No	Robert's geranium	GERANIACEAE	Non-native	
<i>Hypericum perforatum</i> ssp. <i>perforatum</i>	No	Klamath weed	HYPERICACEAE	Non-native	
<i>Juglans californica</i>	No	Southern California black walnut	JUGLANDACEAE	Native	
<i>Marrubium vulgare</i>	No	horehound	LAMIACEAE	Non-native	Limited
<i>Lamium amplexicaule</i>	Yes	henbit	LAMIACEAE	Non-native	
<i>Stachys ajugoides</i> var. <i>rigida</i>	Yes	hedge nettle	LAMIACEAE	Native	
<i>Umbellularia californica</i>	No	laurel	LAURACEAE	Native	
<i>Malva neglecta</i>	No	cheese weed	MALVACEAE	Non-native	
<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	Yes	miner's lettuce	MONTIACEAE	Native	
<i>Castilleja attenuata</i>	No	narrow-leaved owl clover	OROBANCHACEAE	Native	
<i>Pedicularis densiflora</i>	No	Indian warrior	OROBANCHACEAE	Native	
<i>Oxalis corniculata</i>	No	creeping wood sorrel	OXALIDACEAE	Non-native	
<i>Diplacus aurantiacus</i>	Yes	orange monkey bush	PHYRMACEAE	Native	
<i>Digitalis purpurea</i>	No	foxglove	PLANTAGINACEAE	Non-native	Limited
<i>Plantago lanceolata</i>	Yes	English plantain	PLANTAGINACEAE	Non-native	Limited
<i>Collomia grandiflora</i>	No	large-flowered collomia	POLEMONIACEAE	Native	
<i>Collomia heterophylla</i>	Yes	varied-leaf collomia	POLEMONIACEAE	Native	

<i>Leptosiphon harknessii</i>	Yes	Harkness flaxflower	POLEMONIACEAE	Native	
<i>Polygala californica</i>	No	California milkwort	POLYGALACEAE	Native	
<i>Rumex acetosella</i>	Yes	sheep sorrel	POLYGONACEAE	Non-native	Moderate
<i>Rumex crispus</i>	Yes	curly dock	POLYGONACEAE	Non-native	Limited
<i>Rumex occidentalis</i>	Yes	western dock	POLYGONACEAE	Native	
<i>Ranunculus muricatus</i>	No	prickly-fruit buttercup	RANUNCULACEAE	Non-native	
<i>Cotoneaster spp.</i>	No	cotoneaster	ROSACEAE	Native	
<i>Heteromeles arbutifolia</i>	No	toyon	ROSACEAE	Native	
<i>Potentilla gracilis</i> var. <i>fastigiata</i>	No	slender cinquefoil	ROSACEAE	Native	
<i>Galium andrewsii</i>	No	phlox-leaved galium	RUBIACEAE	Native	
<i>Galium aparine</i>	No	cleavers	RUBIACEAE	Non-native	
<i>Galium parisiense</i>	No	wall bedstraw	RUBIACEAE	Non-native	
<i>Galium porrigens</i> var. <i>porrigens</i>	No	climbing bedstraw	RUBIACEAE	Native	
<i>Acer macrophyllum</i>	No	bigleaf maple	SAPINDACEAE	Native	
<i>Verbascum blattaria</i>	No	moth mullein	SCROPHULARIACEAE	Non-native	
<i>Verbascum thapsus</i>	No	woolly mullein	SCROPHULARIACEAE	Non-native	Limited
<i>Solanum americanum</i>	No	small-flowered solanum	SOLANACEAE	Native	
Monocots					
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Yes	soap plant	AGAVACEAE	Native	
<i>Carex brainerdii</i>	No	Brainerd's sedge	CYPERACEAE	Native	
<i>Carex luzulini</i>	No	woodrush sedge	CYPERACEAE	Native	
<i>Iris tenuissima</i> ssp. <i>tenuissima</i>	Yes	slender-tubed iris	IRIDACEAE	Native	
<i>Romulea rosea</i> var. <i>australis</i>	No	Rosy sandcrocus	IRIDACEAE	Non-native	Watch
<i>Sisyrinchium bellum</i>	No	blue-eyed grass	IRIDACEAE	Native	
<i>Luzula parviflora</i> ssp. <i>fastigiata</i>	No	small-flowered wood rush	JUNCACEAE	Native	
<i>Dichelostemma congestum</i>	No	fork-toothed ookow	THEMIDACEAE	Native	
<i>Dichelostemma multiflorum</i>	No	many-flowered brodiaea	THEMIDACEAE	Native	
<i>Dipterostemon capitatum</i>	No	blue dicks	THEMIDACEAE	Native	
<i>Avena sativa</i>	Yes	wild oats (glabrous lemma)	POACEAE	Non-native	
<i>Aira elegans</i>	No	elegant hairgrass	POACEAE	Non-native	
<i>Brachypodium distachyon</i>	No	purple false brome	POACEAE	Non-native	
<i>Briza maxima</i>	Yes	large rattlesnake grass	POACEAE	Non-native	Limited
<i>Bromus arvensis</i>	No	soft brome	POACEAE	Native	
<i>Bromus diandrus</i>	No	ripgut grass	POACEAE	Non-native	Moderate
<i>Bromus laevipes</i>	No	woodland brome	POACEAE	Native	

<i>Bromus madritensis ssp. rubens</i>	Yes	foxtail broom	POACEAE	Non-native	High
<i>Bromus tectorum</i>	No	cheat grass	POACEAE	Non-native	High
<i>Cynosurus echinatus</i>	No	hedgehog grass	POACEAE	Non-native	Moderate
<i>Elymus caput-medusae</i>	No	Medusa head	POACEAE	Non-native	High
<i>Elymus elymoides</i> var. <i>elymoides</i>	No	Squirrel grass	POACEAE	Native	
<i>Festuca bromoides</i>	No	brome fescue	POACEAE	Non-native	
<i>Festuca californica</i>	No	California fescue	POACEAE	Native	
<i>Festuca perennis</i>	No	Italian rye grass	POACEAE	Non-native	Moderate
<i>Gastridium phleoides</i>	No	nit grass	POACEAE	Non-native	
<i>Hordeum murinum</i>	No	summer barley	POACEAE	Non-native	Moderate
<i>Trisetum canescens</i>	No	nodding oatgrass	POACEAE	Native	

Miller Project Area

Listed/Sensitive Wildlife Species

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
Taxon: Birds							
<i>Accipiter gentilis</i> (Northern Goshawk)		SSC	Dense mature and old-growth stands of conifer and deciduous habitats interspersed with meadows or other openings.	Nesting often north-facing slopes near water in densest parts of stands.	General habitat not present. Napa County outside known range.	No	None. Outside known range and habitat not present.
<i>Agelaius tricolor</i> (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.	General habitat not present.	No	Low. Habitat not present.
<i>Agelaius phoeniceus aciculatus</i> (Kern Red-Winged Blackbird)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Aimophila ruficeps obscura</i> (Rufous-Crowned Sparrow)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Ammodramus savannarum</i> (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 grasslands	No	Low. Lacking General Habitat.
<i>Anser albifrons elgasi</i> (Tule Greater White-Fronted Goose)		SSC	Wintering Range		This Project is outside the listed subspecies range	No	None. Outside known range
<i>Aquila chrysaetos</i> (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. Open areas are vineyards, reducing habitat quality.	No	Low. Surrounding open landscape (for foraging) is vineyards, reducing habitat quality.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Ardea alba</i> (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 due to lack of aquatic areas	No	None. Habitat not present
<i>Ardea herodias</i> (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 due to lack of aquatic areas	No	None. Habitat not present
<i>Artemisiospiza belli belli</i> (Bell's Sage Sparrow)		WL			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Asio flammeus</i> (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 due to lack of large treeless areas	No	Low. Lacking treeless areas
<i>Asio otus</i> (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.	Marginal habitat within the BREA	No	Low. Lack of riparian or other thickets
<i>Athene cunicularia</i> (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 large patches of grassland/shrubland	No	Low. Habitat not present.
<i>Aythya americana</i> (Redhead)		SSC	Lacustrine waters - large lakes with extensive areas of emergent vegetation.	Nests in fresh emergent wetlands near open water.	General habitat not present	No	None. Habitat not present

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	FEDERAL	STATE					
<i>Brachyramphus marmoratus</i> (Marbled Murrelet)	FT	SE			This Project is outside the species range	No	None. Outside known range
<i>Bucephala islandica</i> (Barrow's Goldeneye)		SSC	Estuarine (lagoons and bays), brackish lacustrine waters.	Shelters in open water.	Winter Range. Habitat not present	No	None. Habitat not present
<i>Callipepla californica catalinensis</i> (Catalina California Quail)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Charadrius nivosus nivosus</i> (Western Snowy Plover)	FT	SSC	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	Habitat not present. Napa may be outside this species range	No	None. Habitat not present. Outside known range.
<i>Charadrius montanus</i> (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	No	None. Outside known range
<i>Circus hudsonius</i> (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. Open areas are vineyards or urban.	No	Low. Lacking large areas of open areas.
<i>Gistothorus palustris clarkae</i> (Clark's Marsh Wren)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Contopus cooperi</i> (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	No	Moderate Potential. No species observed

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Coturnicops noveboracensis</i> (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. Habitat not present	No	Low. Outside known range & habitat not present
<i>Elanus leucurus</i> (White-Tailed Kite)		FP	Herbaceous lowlands with variable tree growth and dense vole populations	Dense, broad-leaved deciduous trees used for nesting and roosting	Potential foraging habitat is vineyards and urban, thereby reducing habitat suitability.	No	Low. Potential foraging habitat is vineyards/urban with low suitability.
<i>Falco peregrinus anatum</i> (American Peregrine Falcon)	Delisted	Protected	Breeds near wetlands, lakes, rivers or other water on high cliffs, banks dunes, mounds.	Protected cliffs and ledges	Habitat may be present within BREA. Cnddb lists within BREA & 5 mile assessment area	No	Low. Rocky outcrop on parcel, but not tall or protected enough to be appealing to falcons.
<i>Gavia immer</i> (Common Loon)		SSC	Aquatic Habitat	Require 60' open water for running talk-off. Like deep water for diving cover.	Winter Range Only. Habitat not present	No	None. Habitat not present
<i>Geothlypis trichas sinuosa</i> (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.	Unlikely due to suitable riparian habitat	No	None. Habitat not present. Lack of riparian forests.
<i>Gymnogyps californianus</i> (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	No	None. Outside range
<i>Haliaeetus leucocephalus</i> (Bald Eagle)	Delisted	SE	Large, stoutly limbed trees or snags near water	Large, old-growth trees or snags in remote mixed stands near water	Napa River is surrounded by vineyards/urban reducing habitat suitability	No	Low. Lack of suitable water source and nesting sites. May fly over.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Icteria virens</i> (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	No	None. Outside known range
<i>Lanius ludovicianus mearnsi</i> (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 this listed subspecies range	No	None. Outside known range
<i>Laterallus jamaicensis coturniculus</i> (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.	May be outside species range. Habitat not present	No	None. Habitat not present and may be outside known range
<i>Melospiza melodia graminea</i> (Song Sparrow)		SSC	Tidal Salt marshes. Specimens at Petaluma and Second Napa Slough, Sonoma County, Napa River and Vallejo Marsh.	Dense vegetation of tidal salt marshes. Associated with high marsh, particularly Pickleweed and gumplant.	This Project is outside the listed subspecies range	No	None. Outside known range
<i>Melospiza crissalis eremophilus</i> (Inyo California Towhee)	FT	SE			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Pandion haliaetus</i> (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	Napa River is surrounded by vineyards/urban reducing habitat suitability	No	Low. Suitable habitat not present.
<i>Passerculus sandwichensis beldingi</i> (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	No	None. Outside known range
<i>Pelecanus erythrorhynchos</i> (American White Pelican)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range

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	FEDERAL	STATE					
<i>Pipilo maculatus clementae</i> (San Clemente Spotted Towhee)	BCC	SSC			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Progne subis</i> (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. Cnddb has occurrences within 5-miles of Project Area	No	Moderate. Habitat Present. No Species Observed.
<i>Setophaga petechia</i> (Yellow Warbler)		SSC	Riparian habitat in willows or cottonwoods.	Riparian vegetation close to water along streams and in wet meadows	May occur near Napa River	No	Low. No riparian habitat within parcel.
<i>Strix nebulosa</i> (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.	Napa County is outside the known range	No	None. Outside known range.
<i>Strix occidentalis caurina</i> (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. Cnddb has occurrences within 5-miles of Project Area	No	Low. Habitat quality is marginal due to distance to Napa Valley development and lack of steep canyons in immediate area.
<i>Thryomanes bewickii leucophrys</i> (San Clemente Bewick's Wren)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range
<i>Vireo huttoni unitti</i> (Catalina Hutton's Vireo)		SSC			This Project is outside the listed subspecies range	No	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Xanthocephalus xanthocephalus</i> (Yellow-Headed Blackbird)		SSC	Nests in fresh emergent wetlands with dense vegetation and deep water. Forages emergent wetlands and moist open areas croplands and muddy shires of lacustrine habitat	Nests in colonies	This Project is outside the listed species range	No	None. Outside known range
<i>Taxon: Mammals</i>							
<i>Antrozous pallidus</i> (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 occurrences within BREA	No	Moderate. Habitat Present. No Species Observed.
<i>Canis lupus</i> (Gray Wolf)	Delisted	SE	Inhabitat 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.	Outside known range. Presence unlikely due to Napa Valley development	No	Low. Napa Valley development and fenced property boundary.
<i>Corynorhinus townsendii</i> (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 occurrences within BREA	No	Moderate. Habitat Present. No Species Observed.
<i>Dipodomys californicus eximius</i> (Marysville California Kangaroo Rat)		SSC			This Project is outside this listed subspecies range	No	None. Outside known range

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	FEDERAL	STATE					
<i>Lasiorycteris noctivagans</i> (Silver-Haired Bat)	WBWG:M		Coastal and montane coniferous forest, valley foothill woodlands, and pinyon-juniper woodlands, and valley foothill and montane riparian habitats.	Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Nursery colonies may be formed or occur as solitary individuals in dense foliage or hollow trees.	Napa County is outside the known range	No	Low. Outside known range.
<i>Lasiurus blashevillii</i> (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 within BREA.	No	Moderate. Habitat Present. No Species Observed.
<i>Lasiurus cinereus</i> (Hoary Bat)	WBWG:M		May be found at any locations in California. During migration, males found in foothills, deserts, and mountains and females in lowlands and coastal valleys.	Roost in dense foliage of medium to large trees. Preferred sites are hidden from above, with few branches below and have ground cover of low reflexivity. Females bear young while roosting in trees and may leave young in roosting site while foraging.	Habitat Present within BREA	No	Moderate. Habitat Present. No Species Observed.
<i>Lepus californicus bennettii</i> (San Diego Black-Tailed Jackrabbit)	FT	SE			This Project is outside this listed subspecies range	No	None. Outside known range
<i>[Pekania] Martes pennanti</i> (Fisher)		SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high canopy closure	Cavities in large trees, snags, logs, rock areas, or shelters provided by slash or brush piles.	This Project is outside this listed species range	No	None. Outside known range
<i>Microtus californicus</i> spp. (Subspecies of California Vole)		SSC			This Project is outside this listed subspecies range	No	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Myotis thysanodes</i> (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, mines, buildings, or crevices. Forage in early successional stages, along streams, lakes, and ponds.	Marginal habitat present due to elevational preferences	No	Low. Habitat quality is marginal due to elevational preferences.
<i>Myotis volans</i> (Long-Legged Myotis)	WBWG:H		Most common in woodland and forested habitats above 4000'. Forages in chaparral, coastal scrub, and early successional stages of woodlands and forests.	Roost in rock crevices, buildings, under tree bark, in snags, mines, and caves. Separate day and night roosts are used, with day roosts in trees and caves and mines as night roosts.	Marginal habitat present due to elevational preferences	No	Low. Habitat quality is marginal due to elevational preferences.
<i>Neotoma fuscipes riparia</i> (Riparian woodrat)	FE	SSC			This Project is outside this listed subspecies range	No	None. Outside known range
<i>Puma concolor browni</i> (Yuma Mountain Lion)		SSC			This Project is outside this listed subspecies range	No	None. Outside known range
<i>Reithrodontomys raviventris</i> (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	No	None. Outside known range
<i>Silogale gracilis amphiala</i> (Channel Island Spotted Skunk)		SSC			This Project is outside this listed subspecies range	No	None. Outside known range
<i>Sorex ornatus relictus</i> (Buena Vista Lake Ornate Shrew)	FE	SSC			This Project is outside this listed subspecies range	No	None. Outside known range

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Sylvilagus bachmani</i> riparius (Riparian Brush Rabbit)	FE	SE			This Project is outside this listed subspecies range	No	None. Outside known range
<i>Taxidea taxus</i> (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.	Habitat suitability reduced due to Napa Valley development.	No	Low. Fenced parcel prevents access, lack of suitable food source.
<i>Taxon: Amphibians</i>							
<i>Ambystoma</i> <i>californiense</i> (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	No	None. Outside known range
<i>Dicamptodon ensatus</i> (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.	Marginal habitat present within BREA. Cnddb lists occurrences within 5- miles, but not within BREA	No	Low. Habitat not present. Class III stream on parcel.
<i>Rana boylei</i> (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	Marginal habitat present within BREA. Cnddb lists occurrences within BREA and 5-miles	No	Low. Lack of permanent water source. Class III stream on parcel
<i>Rana draytonii</i> (California Red-Legged Frog)	FT	SSC	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.	Marginal habitat present within BREA.	No	Low. Lack of permanent water source. Class III stream on parcel

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREA	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Spea hammondi</i> (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.	No	Low. Outside of known range.
<i>Taxon: Reptile</i>							
<i>Chelonia mydas</i> (Green Sea Turtle)	FT				This Project is outside this listed species range	No	None. Outside known range
<i>Emys marmorata</i> (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 within BREA. Cnddb has occurrences within 5-mile assessment area but not BREA	No	Low. Class III watercourse on parcel.
<i>Thamnophis sirtalis tetrataenia</i> (San Francisco Gartersnake)	FE	SE			This Project is outside this listed subspecies range	No	None. Outside known range
<i>Taxon: Fisheries</i>							
<i>Hypomesus transpacificus</i> (Delta Smelt)	FT	SE	Aquatic and estuaries	Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	This Project is outside this species range.	No	None. Outside range
<i>Oncorhynchus mykiss irideus</i> 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.	The Napa River System supports a small amount of steelhead.	No	None. Class III watercourse on parcel. ECP/FPR provides mitigation to prevent sedimentation transport.

Scientific Name (Common Name)	Status*		General Habitat	Micro Habitat	Species/Habitat Present within BREa	Species Identified in Study Area	Likelihood of Occurrence at Project Site
	FEDERAL	STATE					
<i>Taxon: Other</i>							
<i>Syncaris pacifica</i> (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.	Marginal habitat present within BREa. Cnddb lists occurrences within 5- miles, but not within BREa	No	None. Class III watercourse on parcel. ECP/FPR provides mitigation to prevent sedimentation transport.

Wildlife Species Identified on/adjacent to
Miller Project Area – 3906 Silverado Trail; Calistoga CA

Birds:

- Common Raven
- Turkey Vultures
- American Robin
- Dark-Eyed Junco
- Acorn Woodpecker
- Goldfinch
- Western Bluebird
- Wild Turkey
- Chestnut-Backed Chickadee
- Hummingbird (unidentified species)
- Red-Shoulder Hawk
- Stellar's Jay

Mammals:

- Squirrels
- Coyote scat – outside of fenced property

Reptiles:

- Western Fence Lizards

Amphibians:

- Pacific Tree Frogs

Fisheries:

- None – no Class I watercourses

Other Wildlife Observations:

- Small songbird nests
- Mistletoe in some trees
- High Deer Fence around property
- Snags/Cavity trees throughout – many created by wildfire
- Sheep grazing w/guard dog
- Large Rock Outcrop
- Holes in ground – many created by wildfire

Community	Grank	SRank	Napa Sensitive ?	Likelihood of Occurrence at Project Site?
<i>Alnus rhombifolia</i> - <i>Salix</i> spp.- <i>Umbellularia californica</i> - <i>Acer macrophyllum</i> Association	G4	S4	Yes	Unlikely
<i>Arbutus menziesii</i> – (<i>Quercus agrifolia</i>) Association	G3	S3?		High
<i>Arbutus menziesii</i> – <i>Umbellularia californica</i> Association	G4	S3		High
<i>Arbutus menziesii</i> Alliance	G4	S3		High
<i>Arctostaphylos manzanita</i> - <i>Quercus wislizeni</i> - <i>Umbellularia californica</i> / <i>Adenostoma fasciculatum</i> Alliance	G3	S3	Yes	Moderate
<i>Pseudotsuga menziesii</i> - <i>Pinus ponderosa</i> Alliance	GNR	S4	Yes	Moderate
<i>Pseudotsuga menziesii</i> – <i>Quercus agrifolia</i> Association	G3?	S3		Unlikely
<i>Pseudotsuga menziesii</i> - <i>Notholithocarpus densiflorus</i> Alliance	G3	S3		Unlikely
<i>Quercus durata</i> / <i>Arctostaphylos viscida</i> Alliance	N/A	N/A	Yes	Unlikely
<i>Quercus durata</i> - <i>Umbellularia californica</i> / <i>Rhamnus</i> spp. <i>mesic serpentine</i> NFD Alliance	N/A	N/A	Yes	None
<i>Quercus lobata</i> Alliance	G3	S3		Present
<i>Quercus lobata</i> - <i>Umbellularia californica</i> - <i>Quercus agrifolia</i> - <i>Juglans</i> spp. - <i>Fraxinus</i> spp. Association	G3	S3	Yes	Unlikely
<i>Quercus garyana</i> Association	G4	S3		Present
<i>Quercus lobata</i> - <i>Umbellularia californica</i> - <i>Quercus agrifolia</i> - <i>Juglans</i> spp. - <i>Fraxinus</i> spp. Association	G3	S3	Yes	Unlikely
<i>Salix</i> spp. Alliance	G4	S3	Yes	Unlikely
<i>Sequoia sempervirens</i> Alliance	G3	S3	Yes	Unlikely
<i>Sequoia sempervirens</i> - <i>Pseudotsuga menziesii</i> - <i>Umbellularia californica</i> Alliance	G3	S3	Yes	Unlikely
<i>Umbellularia californica</i> - <i>Quercus durata</i> - <i>Rhamnus</i> spp. <i>Mesic Serpentine</i> NFD Super Alliance			Yes	None
<i>Umbellularia californica</i> - <i>Arbutus menziesii</i> - <i>Quercus agrifolia</i> - <i>Quercus kelloggii</i> - <i>Acer macrophyllum</i> Alliance	G4	S3	Yes	Moderate

¹ August 2021 California Department of Fish and Game, California Sensitive Natural Communities List

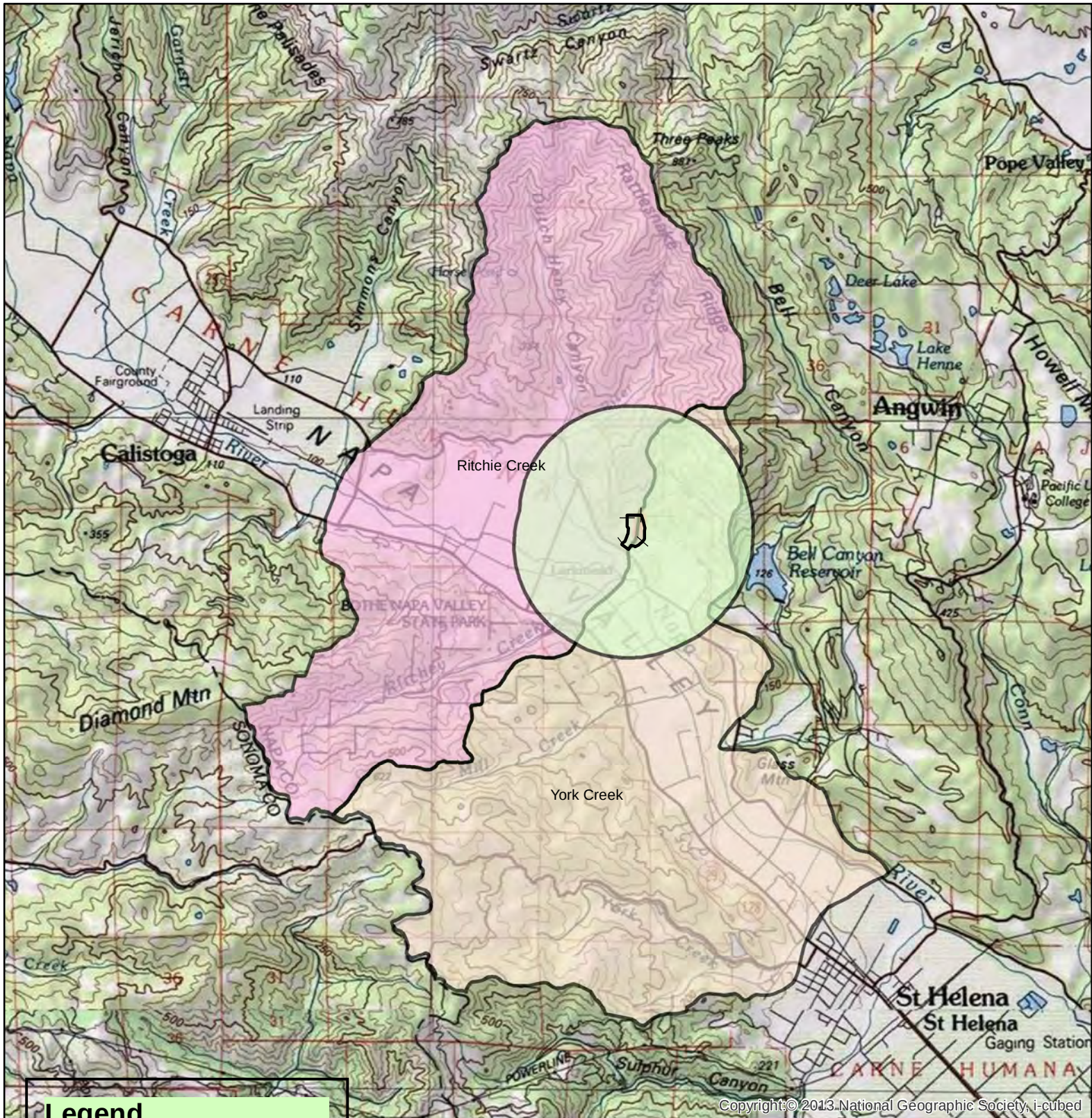
NR = Not ranked, but considered sensitive by the CDFW

Attachment #7

Reference Material Specific to Project

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

BREA - Miller



Legend

- Property Boundary
- 1-Mile Assessment Area
- BREA Watershed 1
- BREA Watershed 2

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management
Page 90



1 inch = 8,333 feet

Date: 10/22/2021
Appendix B

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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**

Miller Vineyard Project



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

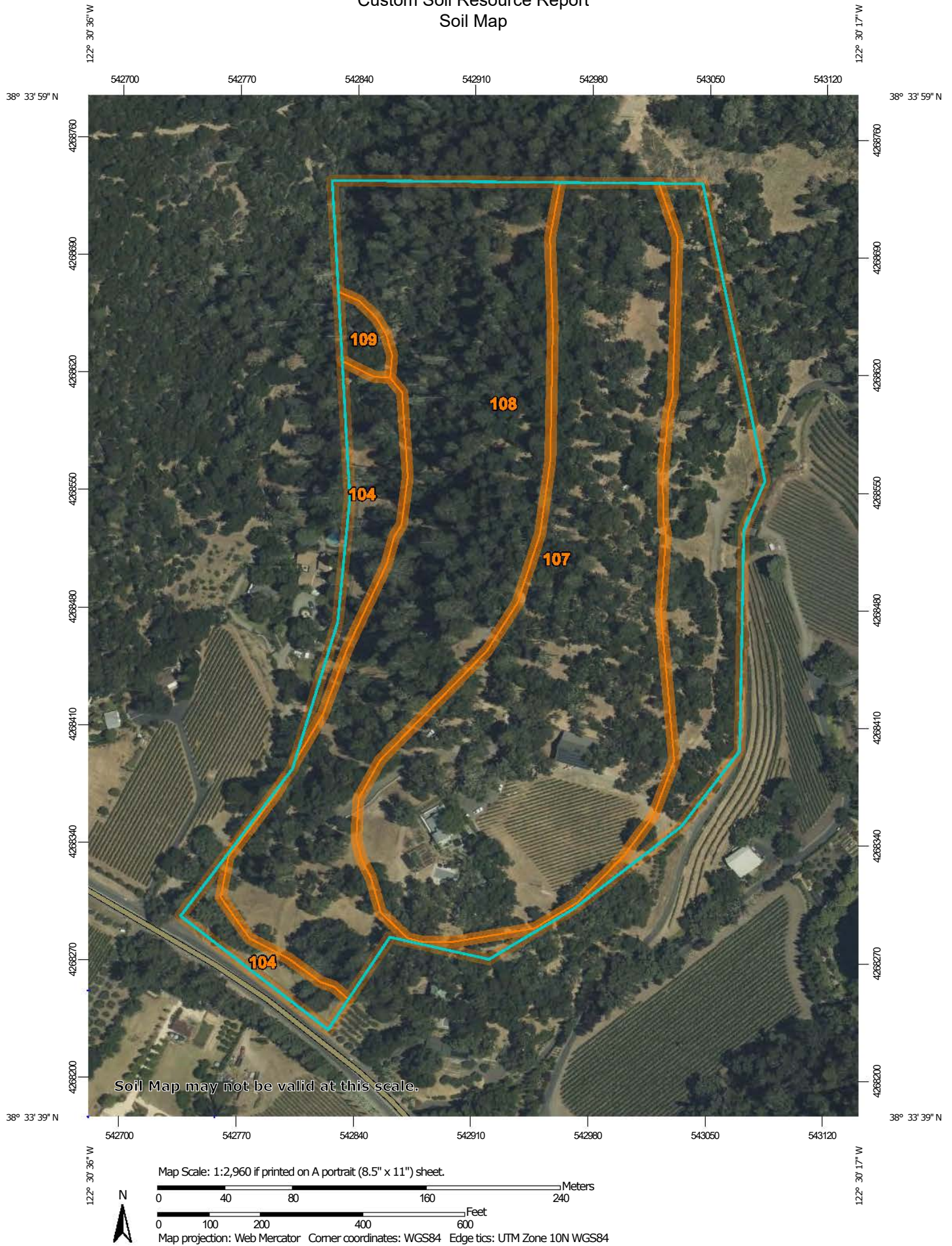
Custom Soil Resource Report

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 Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Bale clay loam, 0 to 2 percent slopes	1.9	6.7%
107	Boomer loam, volcanic bedrock, 2 to 35 percent slopes, MLRA 15	11.4	40.8%
108	Boomer gravelly loam, volcanic bedrock, 11 to 43 percent slopes, MLRA 15	14.3	51.5%
109	Boomer gravelly loam, volcanic bedrock, 14 to 60 percent slopes, MLRA 15	0.3	1.0%
Totals for Area of Interest		27.8	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

104—Bale clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hdk4
Elevation: 20 to 400 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 220 to 270 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Bale and similar soils: 85 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bale

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, talus
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from rhyolite and/or alluvium derived from igneous rock

Typical profile

H1 - 0 to 24 inches: clay loam
H2 - 24 to 60 inches: stratified gravelly sandy loam to loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Rare
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: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Clear lake

Percent of map unit: 3 percent
Landform: Depressions

Hydric soil rating: Yes

107—Boomer loam, volcanic bedrock, 2 to 35 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2w8d7

Elevation: 530 to 1,840 feet

Mean annual precipitation: 34 to 45 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 283 to 324 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Boomer and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boomer

Setting

Landform: Plateaus, hillslopes

Landform position (two-dimensional): Summit, backslope

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Parent material: Residuum weathered from volcanic rock

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

A - 2 to 6 inches: loam

BAt - 6 to 13 inches: loam

Bt1 - 13 to 24 inches: clay loam

Bt2 - 24 to 36 inches: clay loam

Bt3 - 36 to 46 inches: clay loam

Cr - 46 to 58 inches: cemented bedrock

Properties and qualities

Slope: 2 to 35 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 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: 0.2

Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Aiken

Percent of map unit: 5 percent
Hydric soil rating: No

Forward

Percent of map unit: 5 percent
Hydric soil rating: No

Kidd

Percent of map unit: 5 percent
Hydric soil rating: No

108—Boomer gravelly loam, volcanic bedrock, 11 to 43 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2w8cz
Elevation: 360 to 2,410 feet
Mean annual precipitation: 30 to 49 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 268 to 335 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Boomer

Setting

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 6 inches: gravelly loam
BAt - 6 to 13 inches: gravelly loam
Bt1 - 13 to 24 inches: gravelly clay loam

Custom Soil Resource Report

Bt2 - 24 to 36 inches: gravelly clay loam

Bt3 - 36 to 46 inches: gravelly clay loam

Cr - 46 to 58 inches: cemented bedrock

Properties and qualities

Slope: 11 to 43 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 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: 0.2

Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Aiken

Percent of map unit: 5 percent

Kidd

Percent of map unit: 5 percent

Forward

Percent of map unit: 5 percent

109—Boomer gravelly loam, volcanic bedrock, 14 to 60 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2w8d3

Elevation: 370 to 2,300 feet

Mean annual precipitation: 34 to 52 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 262 to 330 days

Farmland classification: Not prime farmland

Map Unit Composition

Boomer and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boomer

Setting

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 6 inches: gravelly loam
BAt - 6 to 13 inches: gravelly loam
Bt1 - 13 to 24 inches: gravelly clay loam
Bt2 - 24 to 36 inches: gravelly clay loam
Bt3 - 36 to 46 inches: gravelly clay loam
Cr - 46 to 58 inches: cemented bedrock

Properties and qualities

Slope: 14 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 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: 0.2
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Aiken

Percent of map unit: 5 percent

Forward

Percent of map unit: 5 percent

Kidd

Percent of map unit: 5 percent

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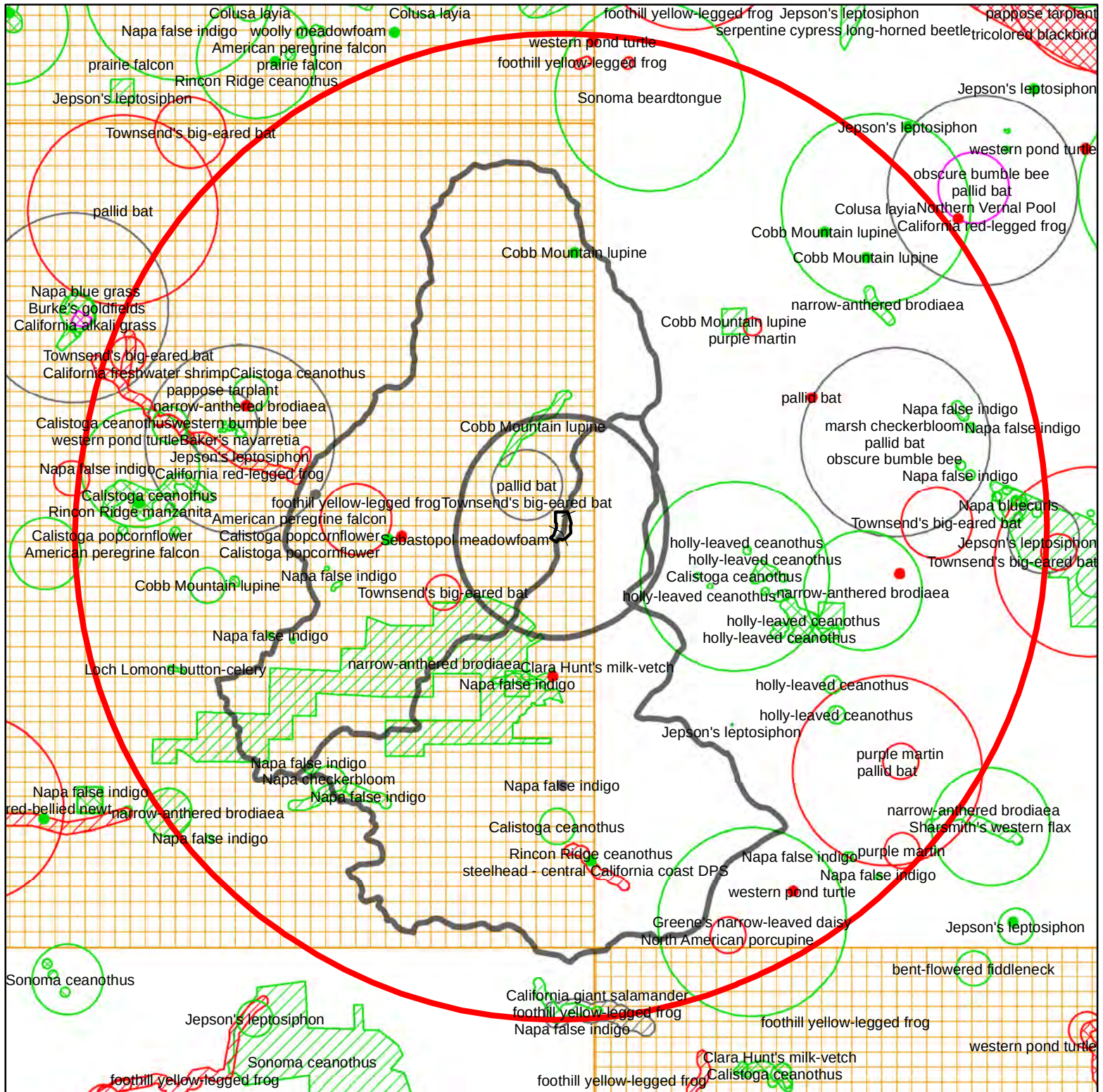
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Miller Project Area - cnddb



Legend

-  Property Boundary
 Miller BRE A
 Five Mile Assessment Area

Section 10 T08N, R06W MDB&M

Parcel #: 021-030-006

Napa County

Forest Ecosystem Management

Page 10
Salix Natural Resource Management

1 inch = 9,583 feet

Date: 11/2/2021

Appendix B



United States Department of the Interior

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



In Reply Refer To:
Consultation Code: 08ESMF00-2020-SLI-2368
Event Code: 08ESMF00-2021-E-08333
Project Name: Miller Project

September 24, 2021

Subject: Updated 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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-2368

Event Code: Some(08ESMF00-2021-E-08333)

Project Name: Miller Project

Project Type:

Project Description: Within the property ownership, convert less than 3 acres from timberland to vineyard.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.56444177831813,-122.50567614972651,14z>



Counties: Napa County, California

Endangered Species Act Species

There is a total of 11 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 Fisheries¹, 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.

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 <i>Strix occidentalis caurina</i> 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	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> 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	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> 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	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered

Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Calistoga Allocarya <i>Plagiobothrys strictus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6161	Endangered
Clara Hunt's Milk-vetch <i>Astragalus clarianus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3300	Endangered
Loch Lomond Coyote Thistle <i>Eryngium constancei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5106	Endangered
Napa Bluegrass <i>Poa napensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2266	Endangered

Critical habitats

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



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 CF = California Fully Protected PT = Federally-Proposed Threatened CD = CDF Sensitive
 FT = Federal Threatened CP = California Protected FC = Federal Candidate HA = Harvest
 CE = California Endangered SC = California Species of Special Concern BL = BLM Sensitive
 CT = California Threatened PE = Federally-Proposed Endangered FS = USFS Sensitive
 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
A046	AMERICAN BULLFROG				HA	INTRODUCED
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
B071	SNOW GOOSE				HA	NATIVE
B072	ROSS' S GOOSE				HA	NATIVE
B075	CANADA GOOSE				HA	NATIVE
B076	WOOD DUCK				HA	NATIVE
B077	GREEN-WINGED TEAL				HA	NATIVE
B079	MALLARD				HA	NATIVE
B080	NORTHERN PINTAIL				HA	NATIVE
B082	BLUE-WINGED TEAL				HA	NATIVE
B083	CINNAMON TEAL				HA	NATIVE
B084	NORTHERN SHOVELER				HA	NATIVE
B085	GADWALL				HA	NATIVE
B086	EURASIAN WIGEON				HA	NATIVE
B087	AMERICAN WIGEON				HA	NATIVE
B089	CANVASBACK				HA	NATIVE
B090	REDHEAD		SC		HA	NATIVE
B091	RING-NECKED DUCK				HA	NATIVE
B094	LESSER SCAUP				HA	NATIVE
B101	COMMON GOLDENEYE				HA	NATIVE
B102	BARROW'S GOLDENEYE		SC		HA	NATIVE
B103	BUFFLEHEAD				HA	NATIVE
B104	HOODED MERGANSER				HA	NATIVE
B105	COMMON MERGANSER				HA	NATIVE
B107	RUDDY DUCK				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

ID	Species	Status			Native / Introduced
B126	GOLDEN EAGLE	CF	BL	CD	NATIVE
B133	RING-NECKED PHEASANT			HA	INTRODUCED
B138	WILD TURKEY			HA	INTRODUCED
B140	CALIFORNIA QUAIL	SC		HA	NATIVE
B141	MOUNTAIN QUAIL			HA	NATIVE
B143	BLACK RAIL	CT CF	BL		NATIVE
B144	CLAPPER RAIL	FE CE CT CF			NATIVE
B148	COMMON GALLINULE			HA	NATIVE
B149	AMERICAN COOT			HA	NATIVE
B154	SNOWY PLOVER	FT	SC		NATIVE
B159	MOUNTAIN PLOVER		SC	BL	NATIVE
B251	BAND-TAILED PIGEON			HA	NATIVE
B255	MOURNING DOVE			HA	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
B353	AMERICAN CROW			HA	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
B484	CALIFORNIA TOWHEE	FT CE			NATIVE
B487	RUFIOUS-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
M001	VIRGINIA OPOSSUM			HA	INTRODUCED
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
M047	AUDUBON'S COTTONTAIL			HA	NATIVE
M051	BLACK-TAILED JACKRABBIT		SC	HA	NATIVE
M077	WESTERN GRAY SQUIRREL			HA	NATIVE
M078	EASTERN FOX SQUIRREL			HA	INTRODUCED

ID	Species	Status				Native / Introduced
M087	SAN JOAQUIN POCKET MOUSE			SC	BL	NATIVE
M105	CALIFORNIA KANGAROO RAT			SC		NATIVE
M112	AMERICAN BEAVER				HA	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
M139	COMMON MUSKRAT				HA	NATIVE
M146	COYOTE				HA	NATIVE
M147	RED FOX		CT		FS	HA
M149	GRAY FOX					HA
M151	BLACK BEAR					HA
M152	RINGTAIL		CF			NATIVE
M153	RACCOON				HA	NATIVE
M157	LONG-TAILED WEASEL				HA	NATIVE
M158	AMERICAN MINK				HA	NATIVE
M160	AMERICAN BADGER			SC	HA	NATIVE
M161	WESTERN SPOTTED SKUNK			SC	HA	NATIVE
M162	STRIPED SKUNK				HA	NATIVE
M165	MOUNTAIN LION			SC		NATIVE
M166	BOBCAT				HA	NATIVE
M170	CALIFORNIA SEA-LION			CP		NATIVE
M171	HARBOR SEAL			CP		NATIVE
M176	WILD PIG				HA	INTRODUCED
M177	ELK				HA	NATIVE
M181	MULE DEER				HA	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: 127

Query Parameters

Included Locations

Napa Co

Included Location Seasons

Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)

Annual Grassland, Blue Oak Woodland, Blue Oak-foothill Pine, Chamise-redshank Chaparral, Douglas-fir, Lacustrine, Mixed Chaparral, Montane Chaparral, Montane Hardwood, Montane Hardwood-conifer, Montane Riparian, Pasture, Perennial Grassland, Ponderosa Pine, Riverine, Urban, Valley Foothill Riparian, Valley Oak Woodland, Vineyard

Habitat Suitability Threshold

Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons

Migrant, Summer, Winter, Yearlong

Excluded Elements

Bogs, Campground, Cliff, Jetty, Mud Flats, Nest Island, Pack Stations, Salt Ponds, Sand Dune, Springs - Hot, Tidepools, Wharf

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, Harvest, Introduced, Native, Usfs Sensitive

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 = 38° 33' 45" N, Longitude = 123° 29' 32" W

Decimal Degrees: Latitude = 38.563, Longitude = -122.508

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



A Tradition of Stewardship
A Commitment to Service

Miller

Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

David Morrison
Director

June 10, 2022

Via Email

Kristen Klein
Bartlet Engineering
1303 Jefferson Street
200 B
Napa, Ca 94559

RE: Application Completeness Determination– Miller Vineyard
File # P22-00153
3906 Silverado Trail, St Helena; APN: 021-030-006

Dear Applicant,

Thank you for the May 12, 2022, resubmittal of the above referenced ECPA application. All planning comments have been addressed, however one additional item shall be required for the project which is noted in Exhibit A.

The ECPA resubmittal is also under review by the Napa County Engineering Division for its technical adequacy in meeting no net increase soil loss and runoff requirements, and to verify project soil loss and hydrologic modeling assumptions. **Engineering's review will be provided to you under a separate attachment.**

This is a preliminary identification of information known to be necessary at this time to initiate the environmental impact analysis required by CEQA and continue processing of the application. Ongoing review of the project may require additional information, including the supplementing of reports that have not been prepared in a manner consistent with County protocol or are otherwise necessary to provide adequate CEQA disclosure and analysis, or complete application processing.

I would also like to take this opportunity to remind you that processing of this application is billed on a time and materials basis: the original application fee paid is a deposit into the project account that is drawn against when work is performed. Generally, once the account balance reaches \$1500.00 additional funds will be requested to cover costs associated with continue processing.

Upon receipt and review of this letter, please feel free to contact me, if necessary, at (707) 253-4437 or dana.morrison@countyofnapa.org to discuss your application or the requested information.

Sincerely,

Dana Morrison

Dana Morrison
Planner III

cc: Patrick Ryan, Supervising Planner, Conservation/Engineering Division (via email)
Daniel Hornett, Engineer, Engineering Division (via email)

EXHIBIT A
APPLICATION COMPLETENESS DETERMINATION – INFORMATION REQUEST
Miller Vineyard #P22-00153-ECPA, APN: 021-030-006-000

1. Application

- a. Revise Application to indicate sub-watershed as noted in the Narrative: Bale Mill Reach and Dutch Henry Creek.
- b. According to the WAA there are three wells located on the parcel. ECPA Narrative should be revised to reflect this and note which of the three wells will be utilized for irrigation of the new and existing vineyard.

2. Please provide a Hydrology Study or Hydrology Statement

- 3. Project needs to demonstrate compliance with Conservation Regulations Section 18.108.020(D) and (E) for the removal of 6 acres of forest area; can utilize the Disaster Recovery Section 8.8.130.B which allows for use of vegetation canopy cover existing on the parcel as of June, 19, 2018.**

- a. Also needs to show no net loss in carbon sequestration, per new Bay Area Air Quality Management District CEQA Greenhouse Gas Thresholds. Project can achieve this through compliance with Con. Regs. Sections noted above.

4. Please show locations of the proposed/existing main irrigation lines in the ECP plans.

5. WAA –

- a. Due to proximity of the well to the blue-line stream, provide a Tier 3 Groundwater/Surface Water Interaction Criteria analysis or demonstrate that the criteria are presumptively met (no interference based on well depth etc.) pursuant to the WAA Guideline (www.countyofnapa.org/2353/Conservation-Documents).
- b. The WAA notes that the Napa Valley Floor is not designated as a groundwater deficient area, however, as of June 7, 2022 the Napa Valley Floor has been designated a groundwater sustainability area. The WAA should be revised to reflect this.
- c. Based on the *Napa County Updated Hydrogeologic Conceptualization and Characterization of Conditions* (https://www.napawatersheds.org/managed_files/Document/7096/FINAL_Napa_HydroGeo_Characterization_Report_Full_Report-reduced.pdf), the recharge rate for the Napa River at St. Helena drainage is estimated at 14% (Table 8-10, *Areas of Greatest Potential Recharge by Watershed*). Given this, the annual recharge for the project well would be 7.58 acre-ft/yr.
- d. Attachment A lists the Future water usage at 4.25 AF/yr, this is inconsistent with the WAA which lists 4.23 af/yr.
- e. The well proposed to irrigate the vineyard is located within the new GSA (groundwater sensitivity area) as such the parcel is subject to a 0.3 af/ac/yr water use criteria, not 1.0 af/ac/yr. Table 1: Screening Criteria in the WAA will need to be revised to reflect this. Per this new GSA water use criteria, water use from this well would need to meet the 0.3 af/ac/yr requirement (10.1 acres x 0.3 af/ac/yr) = 3.03 af/yr. This is less than the proposed project water demand of 4.23 af/yr. As there are two additional wells on the parcel, it might be possible to source the remaining 1.2 af/yr of water from the other wells. However, the WAA needs to be revised to reflect this.

6. Bio Report

- a. Bio report notes Ritchie Creek and York Creek Watershed, however, per the County GIS layers and ECP narrative, Dutch Henry Creek and Bale Mill Reach are the watersheds for the project site. Ritchie Creek, Larkmead Reach, Rattlesnake Ridge Creek, Bell Creek and Bell Canyon Reservoir sub watersheds are within 1 mile of the BREA. Also, Dutch Henry Creek and the

Napa River are located west (~1100 feet and 1500') of the proposed vineyard development/existing vineyard. The creeks are within 1500' of the proposed project well.

Botany

- b. A few moss species are listed in the Botanical Scoping list. However, please include a discussion of any potential impacts to mosses and lichens in the Bio Report.
- c. Please amend the Sensitive Natural Communities section to include the acres and percentage of said communities proposed for removal as part of the project. Added Table 2
- d. Per the Bio Study Northern Spotted Owl surveys are required. The protocol survey requires a minimum of 2 years of surveys prior to tree removal when harvesting within Northern spotted owl habitat.
- e. Bio study noted that the study area should be revisited by the Biologist/Botanist after the Emergency Timber operations have been completed to assess post-fire logging habitat. Please provide the results of this visit. Or, the date of when the visit will be completed (an addendum to the Bio study should be provided).
- f. Northern Spotted Owl Assessment notes that three (3) survey visits are required in 2022 and an amendment to the approved THP prior to timber operations. Notes that operations after Feb 01 require a current year survey effort. However, surveys will no longer be required when timber operation are complete. During the site visit, it appeared that timber operations were still being conducted. As such, project will need to comply with the recommendations from the Spotted Owl Assessment.

NSO



7. Please note that greenhouse gas (GHG) emissions need to be included as part of the environmental review, and potential GHG impacts associated with the project which include vehicular and construction equipment emissions associated with construction and ongoing operations, as well as emissions associated with vegetation removal and loss of sequestration of converted areas needs to be disclosed. Information to get at this generally comes from the vehicular and construction equipment and associated trips necessary to develop and maintain the project and the woodland/vegetation information within the biological report. If you could provide further details regarding truck trips (some information was provided in Attachment A) it will help to inform the GHG section of the Initial Study. In addition to the information provided in Attachment A please provide anticipated truck and vehicle trips, equipment necessary, and number of employees necessary for, land preparation (including rock and stump disposal), ECP installation, vineyard installation and ongoing vineyard operations. Projects with less than 110 trips (trips are one-way) are considered to have a less than significant impact on transportation GHG levels.
8. The Cultural Resource Recon report noted that the Native American Heritage Commission had been contacted, and that results were forthcoming. This did not appear to be attached as an addendum to the Cultural Report, please provide (if applicable).
9. As noted in the application, a Timber Conversion from the Department of Forestry will be required.
10. **Shapefiles:** Please provide the shapefiles so that the project plans can be digitized. (addressed)
11. **Notification Information/Listing:** A listing of the current owners of all the properties located within 1,000 feet of the project site/holding will be necessary to circulate the CEQA document for public review and comment. The notification information shall include the property owner's names, their addresses, and the assessor's parcel numbers of the property owned. Also see the enclosed *Adjoining Property Owner List Requirements* instruction sheet. You will be advised when the notification information will need to be provided. (acknowledged by applicant).



Forest Ecosystem Management

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

Response to Napa County Planning, Building & Environmental Services
Addendum to Biological Resource Reconnaissance Survey Report Dated 04NOV21

RE: Miller Vineyard Conversion
File #: P22-00153
3906 Silverado Trail, St Helena; CA
APN: 021-030-006

July 21, 2022

Addressing Biological Report Section

- a. Watersheds Difference: Biological Assessment Report uses Calwater22 GIS dataset for watershed boundaries. These watersheds appear to include and are larger than the County GIS layers and ECP narrative. The York Creek and Ritchie Creek watersheds includes portions of Dutch Henry Creek, Bale Mill Reach, as well as Ritchie Creek, Larkmead Reach, Rattlesnake Ridge Creek, and Napa River. A portion of the Bell Canyon sub watershed occurs within 1 mile of the Study Area and is included within the BREA. The Bell Canyon Reservoir and Bell Creek are within 1 mile of the BREA; however, further than 1 mile from the Study Area. A map of the BREA with topographic delineations is included within Appendix #7 of the Biological Report.

Using a larger watershed for the Biological Report increased the size of area scoped for listed plant and animal species. As animals more freely move than plants, the scoping area was further expanded to include 5-miles outside the Study Area.

Not sure if there is a question regarding watershed differences, or if clarification was requested.

- b. Impacts to mosses and lichens: No rare lichens or mosses were discovered within the Miller Study Area. The 2020 Glass Fire burned through the project area, killing off most existing moss and lichens within the area. Moss and lichen would be adversely affected by vineyard development; however, plant succession will continue outside the Project Area and eventually create more suitable habitat for moss and lichens.
- c. Sensitive Natural Communities Impacted: The Project Area has been designed to avoid impacts to sensitive natural communities found within the Study Area. There are two communities found within the Study Area designated as sensitive: White Oak (*Quercus garryana*) and Valley Oak (*Quercus lobata*). No sensitive natural communities would be impacted by vineyard development. See Table #1 for communities impacted.

Table #1: Plant Communities within Miller Project Area

Table Updated in MAR23 to correct for footprint and acre adjustment.

Plant Communities	Block A (Acres)	Block B1 (Acres)	Block B2 (Acres)	Block B3 (Acres)	Block B Ave^ (Acres)	Acres Impacted (Acres)	Parcel Total (Acres)
Douglas-Fir (<i>Pseudotsuga menziesii</i>)	0	0	.5	.4	.5	1.4	9.8
Coast Live Oak (<i>Quercus agrifolia</i>)	0	.2	3	0	.8	4.0	12.5
*Valley Oak (<i>Quercus lobata</i>)	0	0	0	0	0	0	0.2
*White Oak (<i>Quercus garryana</i>)	0	0	0	0	0	0	0.1
Wild Oat & Annual Grassland (<i>Avena bromus</i>)	0	.1	.3	.1	.1	0.6	3.3
Ruderal (vineyards/houses/roads)	1	0	0	0	0	1.0	1.8
TOTAL ACRES	1	0.3	3.8	0.5	1.4	7.0	27.7

*Sensitive Plant Community

^Roads/Avenues between vines

NOTE: These are estimates to the nearest tenth and includes +/- the numbers listed

- a. Spotted Owl Surveys Required: See attached Northern Spotted Owl Report which includes 2022 survey data.
- b. Site Revisit after CalFire Emergency Notice: See attached site visit notice.
- c. Spotted Owl Prior to Timber Operations: See attached Northern Spotted Owl Report which includes recommendations to protect northern spotted owls and their habitat.

Questions or comments to the above information can be addressed to:

Pamela Town
Consulting Wildlife Biologist
(406) 490-7427
Pamtown30@gmail.com

Site Visit – Miller Project Area

On July 12, 2022; Heather Morrison (Botanist) visited the Miller Project Area. This site visit took place after the CalFire Emergency Notice of Timber Operations. The purpose of the visit was to determine what, if any, of the overstory canopy remained post fire/post logging. Approximately 40% of the overstory canopy cover was removed due to logging dead/dying trees within the Project Area, with 20% of the overstory canopy cover removed outside the Project Area (per Scott Butler, RPF). The entire property had little to no ground vegetation (shrubs and forbs) both pre and post fire and logging. There have been sheep grazing on the property. Within the Project Area footprint, the site has always and still is “park-like”, with a little more multi-tiered vegetation on the steeper slopes (outside the project area), although the sheep did have access to this area as well.

The following pictures were taken on this visit:



Southern portion of Block B2 and Block B1



Within Block B2 looking West



Within Block B2 and looking north toward Block 2A

As portions of the overstory canopy are still present, the Project Recommendations within the 04NOV21 Biological Resource Reconnaissance Survey Report should still be followed. This would include searching for nesting raptors, nesting listed/sensitive songbirds (purple martins, olive-sided flycatcher), and roosting bats prior to earthmoving activities.



Forest Ecosystem Management

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

Northern Spotted Owl Assessment

Miller Project

Napa County

Report Completed by: Pamela Town, Consulting
Wildlife Biologist on February 22, 2023

The enclosed information regarding northern spotted owl (*Strix occidentalis caurina*), or NSOs, follows USFWS recommendations to avoid the incidental take of the federally listed northern spotted owl, through timber operations on private lands in California. This information updates any previous northern spotted owl assessments completed for this parcel.

This information can be submitted with the Timber Harvest Plan (THP) for plan approval through California Department of Forestry and Fire Protection (CalFire) or required documentation for assessing Northern Spotted Owls for Napa County. The Miller Project falls within the inland timber operations region and therefore follows USFWS Take Avoidance and Analysis and Guidance for Northern Spotted Owls, commonly referred to as Attachment B (Attachment #1).

General Project Information

Project Address: 3906 Silverado Trail; Calistoga, California (Attachment #2)

Legal Description: Portions of Section 10, T08N, R06W MDB&M

County: Napa County

APN: 021-030-006

Access: Silverado Trail

Proposed Project:

- Conversion of approximately 6 Acres (Attachment #3)

Known Northern Spotted Owl Territories

According to the California Department of Fish & Wildlife's spotted owl viewer dated 22FEB23, there are no known northern spotted owl territories within 1.3 miles of the Property (Attachment #4). The 1.3-mile assessment area was created by USFWS for a Take Avoidance of northern spotted owls within the California Interior (outside the redwood zone). Although Napa County does have redwoods, the environmental conditions in the area are hotter/drier than the coastal redwood zone; therefore, the

1.3-mile assessment area was used for this Project. The closest known NSO territory is located over 2 miles and across Napa Valley from the Property Boundary.

As there are no known northern spotted owl territories within 1.3 miles of this THP, no habitat maps for specific activity centers are being submitted at this time. If a new territory is identified, habitat maps will be required.

Northern Spotted Owl Habitat

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

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

2020 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 Miller Property. The Miller Property had the majority of the overstory vegetation burned on the northern region of the property, with the oaks near Silverado Road spared. A CalFire Notice of Emergency Timber Operations was completed to remove the dead/dying trees after the wildfire. This Emergency Notice removed approximately 40% of the overstory canopy cover within the Project Area and 20% of the overstory canopy cover outside the project area due to dead/dying trees (per Scott Butler, RPF).

The Miller Project is divided into 4 separate blocks (Attachment #3).

- Block A is an existing 1-acre vineyard that was established without permits by a previous landowner. The current property owner is including this portion within the permitting process. Using historical aerial photos, it appears the vineyard was established in June/July of 2009. Prior to that date, using aeriels back to December 1985, this area was primarily grass with a few trees scattered. The site would not have been considered northern spotted owl habitat in 1985 due to lack of overstory canopy cover.
- Block B1 is pre-harvest unsuitable NSO habitat. This site is primarily made up of live oak and madrones. It is considered unsuitable habitat due to tree species composition and lack of overstory canopy cover.
- Block B2 was a mix of foraging and unsuitable habitat prior to the 2020 Glass wildfire. The foraging habitat was a mixed Douglas-fir stand with madrone and oaks scattered throughout. The unsuitable habitat is primarily live oak with some white oak scattered throughout. Even prior to the 2020 Glass Wildfire, the area was “park-like” with very little understory. The landowner used much of this area for storage of equipment and firewood

production. The foraging habitat improved as the slope becomes steeper on the western side of the property; however, the Glass wildfire burned a good portion of the overstory canopy. Post wildfire and emergency exemption, the entire block area would be unsuitable for NSOs due to lack of overstory canopy cover and live forest size.

- Block B2a was considered foraging habitat prior to the 2020 Glass wildfire. This area was primarily Douglas-fir with some madrone scattered throughout. Post wildfire and emergency exemption, the entire block would be unsuitable for NSOs due to lack of overstory canopy cover and live forest size.

Northern Spotted Owl Habitat for Miller Project (Attachment #5)

<u>Habitat Type</u>	<u>Pre-Harvest/Wildfire</u>	<u>Post-Wildfire & Emergency Notice</u>	<u>Post-Harvest</u>
Nesting/Roosting Habitat	0	0	0
Foraging Habitat	1.5	0	0
Unsuitable Habitat	4.5	6	6
TOTAL	6 Acres	6 Acres	6 Acres

The 1.3-mile assessment area surrounding the property (Attachment #6) was a mix of open agriculture (Napa Valley), residential houses, commercial wineries, shrub-land, and a scattered forested landscape. The forested landscape was primarily Douglas-fir forests, with a component of pines, tanoak, and madrone; as well as oak woodlands (Live Oak, Valley Oak, White Oak) and California Bay. The majority of the landscape was burned during the 2020 Glass wildfire, with a few small patches of live trees left (along Napa River, within Bothe Napa Valley State Park, and small patches of private forestlands). These small patches of live forest may not be large enough to support a resident northern spotted owl.

Northern Spotted Owl Surveys

Pre-Glass wildfire, it is unlikely that a resident northern spotted owl would occur within the ownership due to habitat conditions of the property and watershed; however, it was possible a “floater” might temporarily use the area, so NSO surveys began in 2020 (pre-fire). Post fire, the area was even less suitable for northern spotted owls; however, surveys have continued as the impacts of the recent large-scaled wildfires on northern spotted owl movement are unknown and owls may be forced into less suitable habitat.

The Project Area was surveyed in 2020 (prior to the Glass wildfire), 2021 (post burn and prior to CalFire Emergency Notice), and 2022 (post wildfire and emergency notice). Two survey stations were used, one on the northern and one on the southern end of the property (Attachment #7). No northern spotted owls or barred owls were detected. **Surveys are valid for the breeding season in which they were completed. Protocol surveys are required prior to all yearly timber harvest operations for the life of a CalFire Timber Harvest Plan/Conversion.**

Northern Spotted Owl Surveys for Miller Project

<u>Date</u>	<u>Weather & Surveyor</u>	<u>Station</u>	<u>Survey Time</u>	<u>Results</u>
18MAR20	Sprinkles & calm	1	1952 – 2002	N/R
Survey #1	S. Butler	2	2007 – 2017	N/R
09APR20	Overcast & calm	1	0205 – 0220	N/R - Turkeys
Survey #2	S. Butler	2	0223 – 0233	N/R - Quiet
20APR20	Ptly cloudy & lt breeze	1	2010 – 2020	N/R – Turkeys and Traffic
Survey #3	P. Town	2	2027 – 2037	N/R – Distant Cars
28APR20	Clear & calm	1	2133 – 2143	N/R - Traffic
Survey #4	H. Morrison	2	2147 – 2157	N/R - Traffic
13MAY20	High fog & calm	2	2150 – 2200	N/R
Survey #5	S. Butler	1	2203 - 2213	N/R
04JUN20	Clear & calm	1	0042 – 0052	N/R – Car and airplane
Survey #6	S. Butler	2	0055 – 0105	N/R – Crickets and Cars
15MAR21	Clear & lt breeze	1	1922 – 1932	N/R – Raven, Traffic and frogs
Survey #1	H. Morrison	2	1934 – 1944	N/R – Traffic and frogs
29MAR21	Clear & calm	1	2018 – 2028	N/R – Frogs, turkeys, crickets
Survey #2	H. Morrison	2	2032 – 2042	N/R – Traffic, dogs, crickets
20APR21	Ptly cloudy & calm	1	2239 – 2249	N/R – Very quiet
Survey #3	S. Butler	2	2251 – 2301	N/R – Very quiet
27APR21	Clear, calm & warm	1	2039 – 2049	N/R - Traffic
Survey #4	P. Town	2	2053 – 2103	N/R - Sheep
10MAY21	Clear & calm	1	2248 – 2258	N/R - Cars
Survey #5	S. Butler	2	2301 – 2311	N/R – Dogs and cars
03JUN21	Clear, calm, warm	1	2214 – 2224	N/R - Cars
Survey #6	S. Butler	2	2226 – 2236	N/R – Cars and crickets
16MAR22	Clear & calm	1	2140 – 2150	N/R – GHOW Valley floor & crickets
Survey #1	S. Butler	2	2152 - 2202	N/R - cars
02APR22	Clear & calm	1	2234 – 2244	N/R – guard dog for sheep
Survey #2	S. Butler	2	2246 – 2256	N/R – cars and guard dog for sheep

14APR22	High fog & calm	1	2304 – 2314	N/R – dog barking, crickets, cool
Survey #3	S. Butler	2	2316 – 2326	N/R – frogs, crickets, cars
03MAY22	Clear, warm, calm	1	2223 – 2233	N/R
Survey #4	S. Butler	2	2236 – 2246	N/R – dog barking
15MAY22	Clear & breeze	1	2355 – 0005	N/R – turkeys, crickets
Survey #5	S. Butler	2	0008 – 0018	N/R
04JUN22	Overcast & cool	1	0041 – 0051	N/R – frogs & drizzle
Survey #6	S. Butler	2	0053 - 0103	N/R – frogs & drizzle

N/R – No Response from northern spotted owls

Surveyors: Scott Butler, RPF

Heather Morrison, Botanist

Pamela Town, Consulting Wildlife Biologist

Northern Spotted Owl Protection Measures

Pre-Glass wildfire, some of the ownership was considered marginal foraging northern spotted owl habitat. The habitat was downgraded due to the Glass Wildfire, with dead/dying overstory trees subject to removal under a CalFire Emergency Notice of Operations throughout portions of the project area and ownership. As there are some patches of live overstory trees that survived the fire (Attachment #7a), the impacts of the recent large-scaled wildfires on northern spotted owl movement are not known, and a portion of this project is for a conversion of forestland; it is recommended that protocol surveys are met prior to timber operations for this project. Therefore, the following is recommended:

- Surveys completed are valid until the beginning of the next years' breeding season (01FEB).
 - The surveys for this project were valid until 01FEB23.
 - Timber operations after 01FEB23, or in order to keep surveys up-to-date, require NSO surveys.
- Complete NSO Protocol Surveys within years of proposed timber operations for this project. Once timber operations are complete, surveys would no longer be required. Using current survey history:
 - 2023: Complete at least 3 spot check surveys.
- No operations, other than the use and maintenance of existing roads, will occur within 1,000' of any occupied spotted owl activity center. ***At this time, there are no known NSO activity centers within 1.3 miles of this Project.***
- Seasonal disturbance buffers (1/4 mile) will be observed for occupied sites during the breeding season (01FEB – 31AUG) or at least until protocol surveys support probable absence, non-nesting, nest failure, or fledgling flight can be determined. ***At this time, there are no known NSO activity centers within 1.3 miles of this Project.***
- If Project Description changes from that listed within this Assessment, a new NSO Assessment may be required.

Attachments

Attachment #1 – NSO Take Avoidance and Guidance for Private Lands in CA Summary
Attachment #2 – Topographical Map – Project Location and NSOs within 1.3 Miles (1 page)
Attachment #3 – Project Area (topographic and aerial) (2 pages)
Attachment #4 – CA Fish & Wildlife Spotted Owl Sites Found – Report #1 (1 page)
Attachment #5 – Pre & Post Harvest NSO Habitat on Project (1 page)
Attachment #6 – NSO Habitat within 1.3 miles of Miller Project (1 page)
Attachment #7 – Northern Spotted Owl Survey Station Map (1 page)
Attachment #7a – Live Trees within ¼ mile of the Project Area (1 page)

Northern Spotted Owl Contact Information

Questions or comments regarding this NSO information can be directed to:

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Pamtown30@gmail.com

Other Information

Definitions:

- o Activity Center: Area of concentrated activity of either a pair of NSOs or a single territorial NSO, represented by a mapped location (usually a nest tree) that occurs within, but not necessarily in the exact center of, the core area. Where clusters of site centers exist in a core area a geographic centroid or nearest neighbor calculation may be used as a designated activity center for habitat analysis purposes. A single territory may also have more than one designated activity center.
- o Territory: A spatial area of landscape that is defended by a single resident or pair of northern spotted owls. Specific NSO territories generally refer to a fixed geographic area. Over time, individual spotted owls may occupy different territories (i.e. breeding dispersal, interference competition with barred owls, changes in habitat or prey availability, etc.).
- o Home Range: In the absence of site-specific data, the home range is a 1.3-mile radius circle centered on the activity center.
- o Territory Identification Number (NAP0005): A number generated by the California Department of Fish & Wildlife assigned to a geographic area currently and/or historically occupied by northern spotted owls.
- o Suitable Habitat: Areas meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- o Unsuitable Habitat: Areas not meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- o NSO Breeding Season: February 1 to August 31st within the inland ecotype.
- o Survey Season: March 15 to August 31st within the inland ecotype.

- o Degrade Habitat: Signifies when treatments have a negative influence on the quality of habitat due to the removal or reduction of NSO habitat elements but not to the degree where the existing habitat function is changed.
- o Downgrade Habitat: Treatments that reduce habitat elements to the degree the habitat will not function in the capacity that exists pre-treatment, but the activities will not remove habitat entirely.
- o Assessment Area: The area used to address northern spotted owls includes 1) Project Footprint; 2) Area within ¼ mile of Project Footprint; 3) 1.3 miles from Project Footprint.

References:

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

Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry & Fire Protection. February 2008.

Northern Spotted Owl Take Avoidance Analysis and Guidance for Private lands in California. Attachment B: Take Avoidance Analysis – Interior. United States Department of Interior Fish & Wildlife Service. November 1, 2019.

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

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

Attachment #1

Northern Spotted Owl Take Avoidance and Guidance for Private Lands in California Attachment B – Take Avoidance Analysis-Interior

This information provides the United States Fish and Wildlife Service's (USFWS) guidelines to avoid the incidental take, as defined in the Endangered Species Act of 1973 of Northern Spotted Owls (*Strix occidentalis caurina*, NSO), that may result from timber operations within the range of NSOs within California outside the coastal redwood zone. This is an overview of Attachment B, hi-lighting the primary requirements to protect NSOs. See the reference material listed below for the complete Take Avoidance Guidance.

Referenced from:

- Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry and Fire Protection. February 2008. Sacramento, CA.
 - Northern Spotted Owl Take Avoidance and Guidance for Private Lands in California. Attachment B – Take Avoidance Analysis-Interior. United States Fish and Wildlife Service. November 2019. Sacramento, CA
 - Protocol For Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the USFWS. February 2, 2011 and Revised January 9, 2012.
-

I. Accuracy of NSO Activity Center Location, Status, and Mapping

Accurately mapping the location of NSO activity centers is critical for avoiding take of NSO. Activity center locations are more accurate when plotted as a result of current surveys rather than solely relying on using the locations found in the California Department of Fish & Wildlife (CDFW) Spotted Owl Observation Database (SPOWDB). Multiple activity centers for an NSO pair are possible. If one core use area does not encompass all known activity centers, then multiple core use areas may need to be protected. When several years of survey records including positive and negative survey results are available, it may be possible to more precisely map a logical core use area and home range that captures important habitat available to NSOs. This is particularly true in the interior portion of the NSO range in California (as in Napa County) because NSOs tend to remain in the same areas over time. NSOs in these hotter and drier portions of their range rely on topographical features (canyons and lower slopes) to provide relatively stable micro-climates that are within NSO thermal tolerances. In addition, south facing slopes in the interior are often naturally devoid of dense forests.

Home ranges and core use areas for NSOs in the interior are often more accurately depicted by non-circular polygons that often follow drainages where higher quality habitat is present compared to upslope areas.

The analysis of take avoidance should apply to all activity centers listed in the SPOWDB and other available sources within 1.3 miles of the proposed project. If it can be demonstrated that the site does not qualify for protection (i.e., abandoned or non-valid site determination) then consulting with the appropriate regulatory agency is required. When a site can no longer support an NSO due to changes in habitat as the result of fire, timber harvesting, or other disturbances and there is interest to deem the site abandoned, then consultation with the appropriate regulatory agency is required. If an activity center is considered unoccupied for the year after adequate surveys and suitable habitat is present, alternatives to the full protection measures (i.e., harvesting within seasonal restrictions) may be allowed but requires consultation with the appropriate regulatory agency.

II. Flexibility in Survey Protocol

There are 3 areas where flexibility for landowners exists and where take can still be reasonable be avoided: 1) Spot Check Surveys; 2) Modifying the number of required survey visits, and 3) Modifying the survey area.

In most cases in Napa County, the surrounding landscape is privately owned and access is limited; therefore, deviations to the survey protocol are often required (i.e. cannot survey the entire 1.3-mile assessment area). To account for this, as the 2012 protocol was not followed completely, any attempts to use the 2019 flexibility to surveys should not be completed without prior approval from the appropriate regulatory agency.

III. Habitat Typing

Habitat definitions are intended for application at the scale of around 20 acres. This means that within any given 20 acres that serve as NSO habitat, the forest stand structure (QMD, basal area, canopy closure) may be variable, but the average values should meet the appropriate standards.

NSO habitat is described both in vegetative structure (tree size, density, canopy closure) and spatial extent and proximity to other habitat. Small patches (less than 100 acres) of forests with large trees and dense canopy are not likely to function as NSO habitat if they are less than 100 yards (300') wide or separated by more than ½ mile from other NSO habitat.

The highest quality NSO habitat available should be identified and retained over lesser-quality habitat. Prioritization includes:

- Tree Species composition and existing habitat quality
 - Highest quality existing habitat should be prioritized for retention
 - Mixed conifer stands should be selected over pure pine stands
 - Retained areas should feature multi-layered, multi-species stand structure with abundant large woody debris on the forest floor.
- Abiotic Considerations
 - Distance to nest – retain habitat as close as possible to nest or roost trees
 - Contiguity – retain habitat should be as contiguous as possible
 - Slope Position – retain habitat on the lower 1/3 of slopes

- Aspect – habitats on northerly or easterly aspects provide more optimal vegetation composition and cooler site conditions.

IV. Habitat Protection

In the absence of site-specific information, the follow requirements apply within the 1.3-mile radius of each activity enter:

- Within 1,000 feet of an Activity Center
 - Outside breeding season (01SEP – 31JAN), no timber operations other than the use of existing roads.
 - During the breeding season (01FEB – 31AUG), no timber operations other than the use of existing, permanent, year-round roads.
- Within ½ mile radius (502 acres) centered on an Activity Center – Core Use Area
 - Retention of habitat using Habitat Typing recommendations above
 - At least 250 acres nesting/roosting habitat present, as follows:
 - 100 acres of high-quality nesting/roosting habitat, and
 - 150 acres nesting/roosting habitat AND
 - At least 150 acres of foraging habitat, or better, must be present, as follows:
 - 100 acres foraging habitat, and
 - 50 acres of low-quality foraging habitat
 - No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP
- Between ½ mile and 1.3-mile radius circles (3,397 acres) centered on an Activity Center
 - Retention of habitat using Habitat Typing recommendations above
 - At least 935 acres of suitable habitat must be present, as follows:
 - At least 655 acres of foraging habitat or better, and
 - At least 280 acres of low-quality foraging habitat or better
 - No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP.

Non-circular delineations can be used using site-specific data, abiotic variables, NSO detections, barred owl detections, and habitat configurations using the best available NSO habitat. Project proponents are encouraged to work with adjacent landowners whose property may be affected and to pre-consult with regulatory agencies when proposing to use non-circular habitat assessment areas.

For unoccupied activity centers, the habitat retention standards above should be maintained. NSOs are known to reoccupy used sites eight or more years after they were last detected and modifications to previously occupied sites may preclude NSOs returning to these sites. If barred owls have been detected within 1.3 miles of an activity center, extra caution should be applied in determining occupancy.

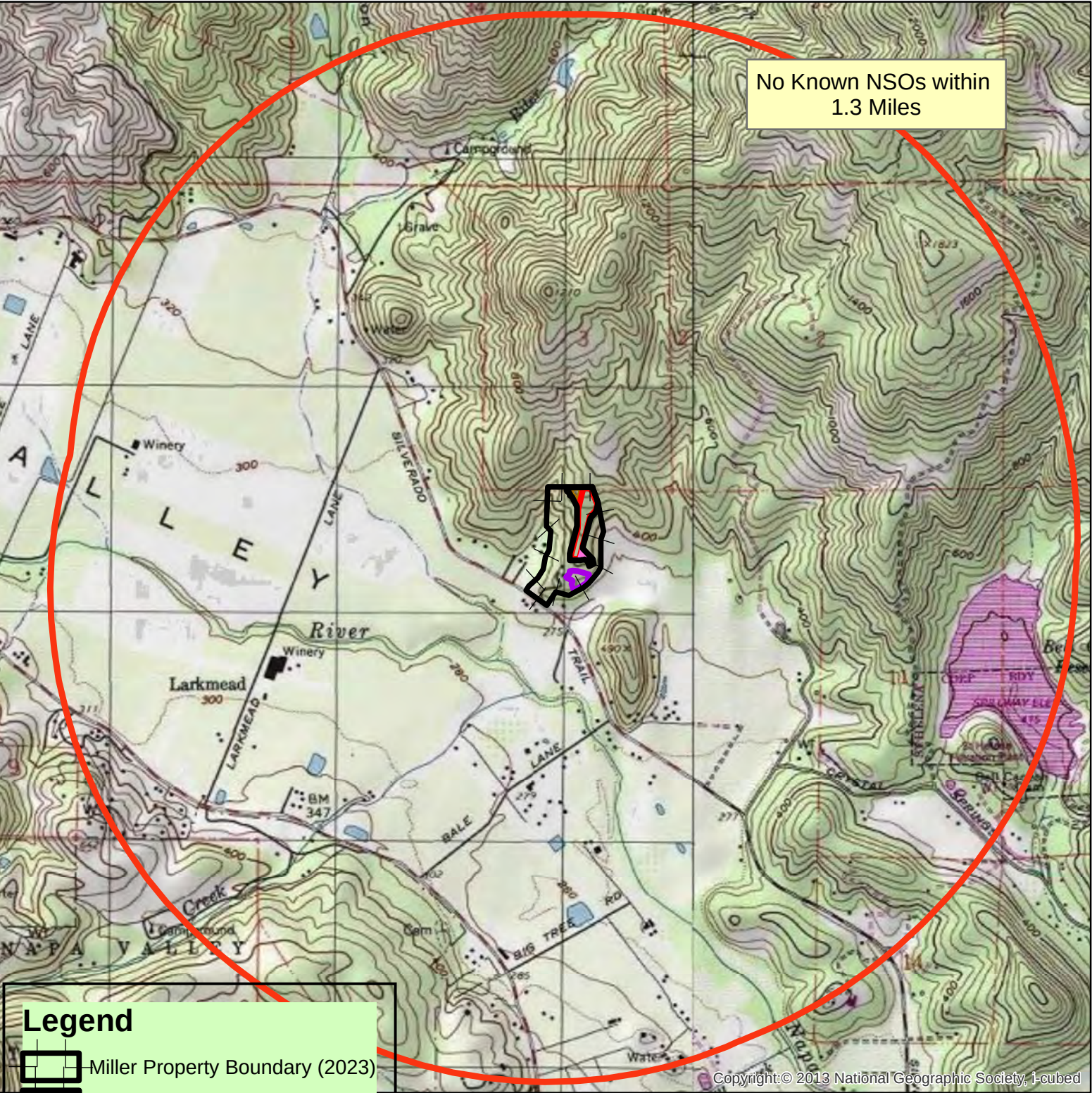
V. Road Use

To avoid take of NSO from noise disturbance, no road maintenance or use within ¼ mile of an occupied NSO activity center during the breeding season should occur, unless:

- Protocol monitoring has determined that NSOs are not nesting or nesting has failed.
- The road receives year-round use and proposed operations will not exceed ambient noise conditions.
- Proposals to use or maintain roads within ¼ mile of an activity center during the breeding season require approval by the appropriate regulatory agency.

Deviations to the road use guidelines may be proposed depending on noise minimization measures (speed limits, compression braking restrictions), duration, extent, frequency, and distance of the noise source to the activity center. Additionally, topography, dense vegetation, or other factors may be considered and noise restrictions may be waived or minimized by regulatory agencies.

Northern Spotted Owls within 1.3 Miles Miller Project



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- Block A Existing
- Block B1 (2023)
- Block B2 (2023)
- Block B3 (2023)

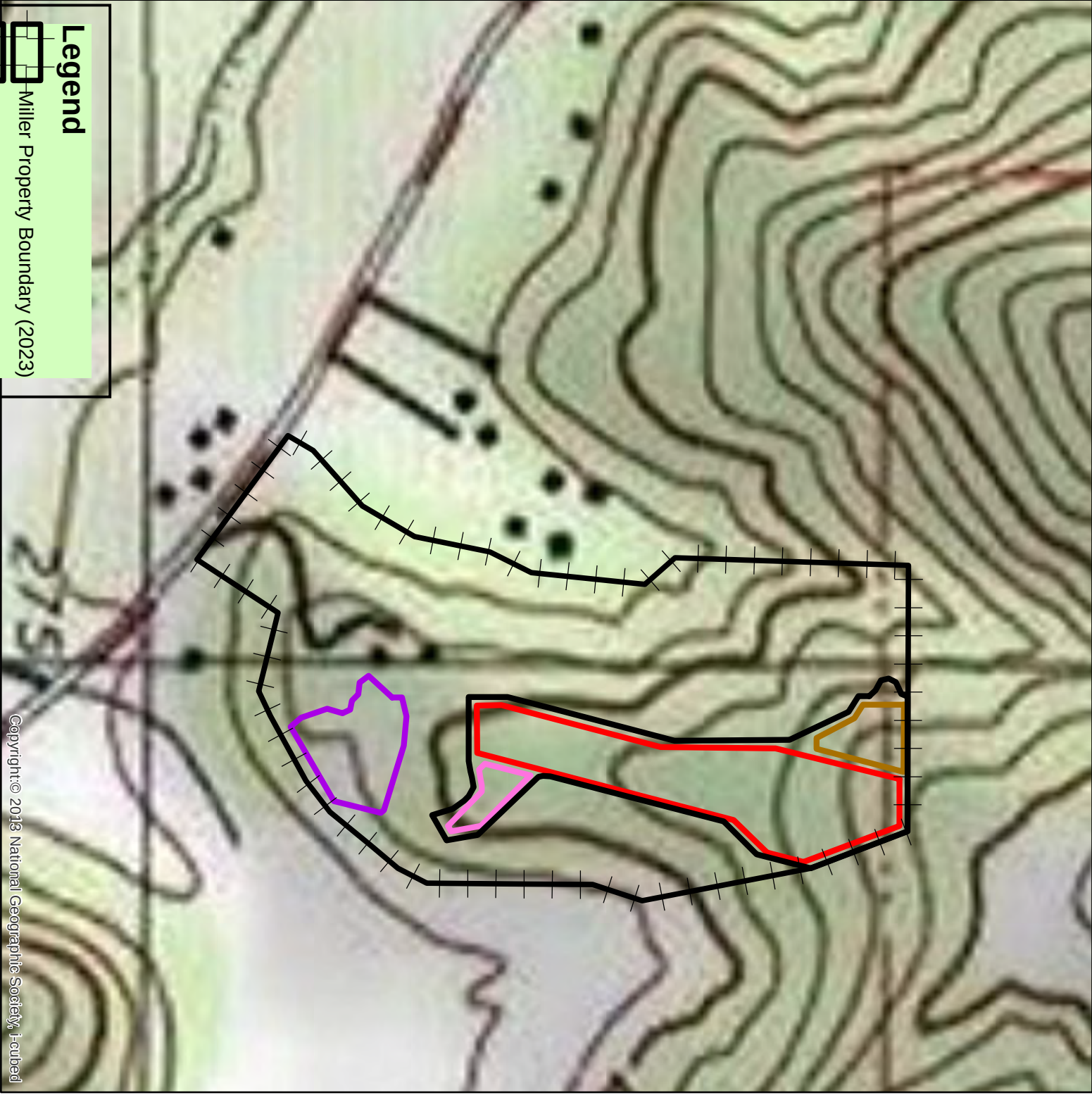
Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management



1 inch = 2,500 feet
Date: 3/24/2023

Miller Project Area



Legend

-  Miller Property Boundary (2023)
-  Miller Conversion Area
-  Block A Existing
-  Block B1 (2023)
-  Block B2 (2023)
-  Block B3 (2023)

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Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

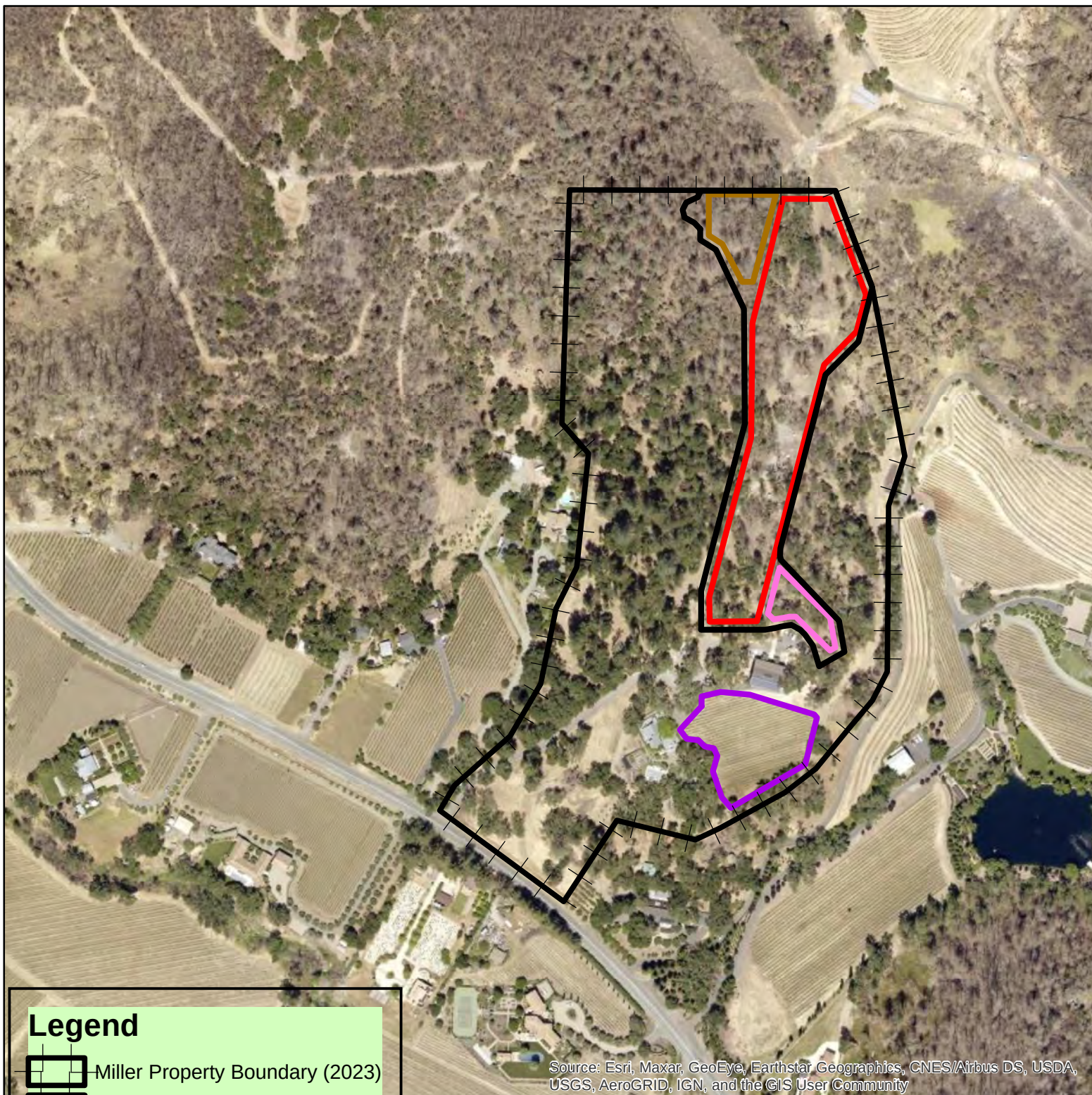
Forest Ecosystem Management



1 inch = 417 feet

Date: 3/24/2023

Miller Project Area



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- Block A Existing
- Block B1 (2023)
- Block B2 (2023)
- Block B3 (2023)

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management



1 inch = 417 feet

Date: 3/24/2023

Data Version Date:
02/01/2023
Report Generation Date:
2/22/2023

Report #1 - Spotted Owl Sites Found
Known Spotted Owl sites having observations
within the search area.



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

M_09N_06W Sections(33,34,35,36);

M_08N_06W Sections(01,02,03,04,09,10,11,12,13,14,15,16);

NOTES:

Miller Project Area

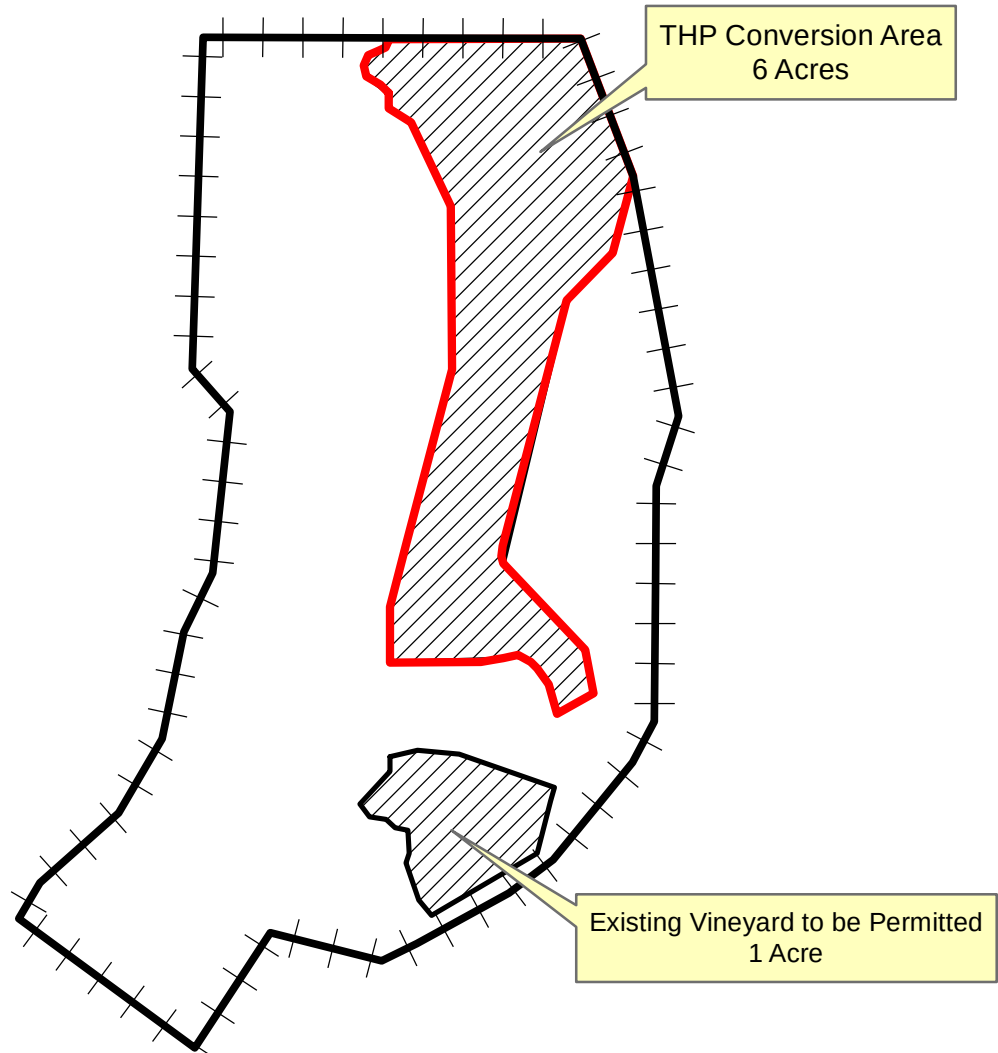
Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
NAP0001	NORTHERN	38.539867	-122.546050	M 08N 06W 17	Contributor

over
2 Miles

owls
in 1.3 Miles
None

Pre & Post Harvest NSO Habitat - Miller Project Area

NSO Habitat (2023)
All Unsuitable NSO Habitat within Project Area



Legend

-  Miller Property Boundary (2023)
-  Miller Conversion Area
-  Project Unsuitable NSO Habitat

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

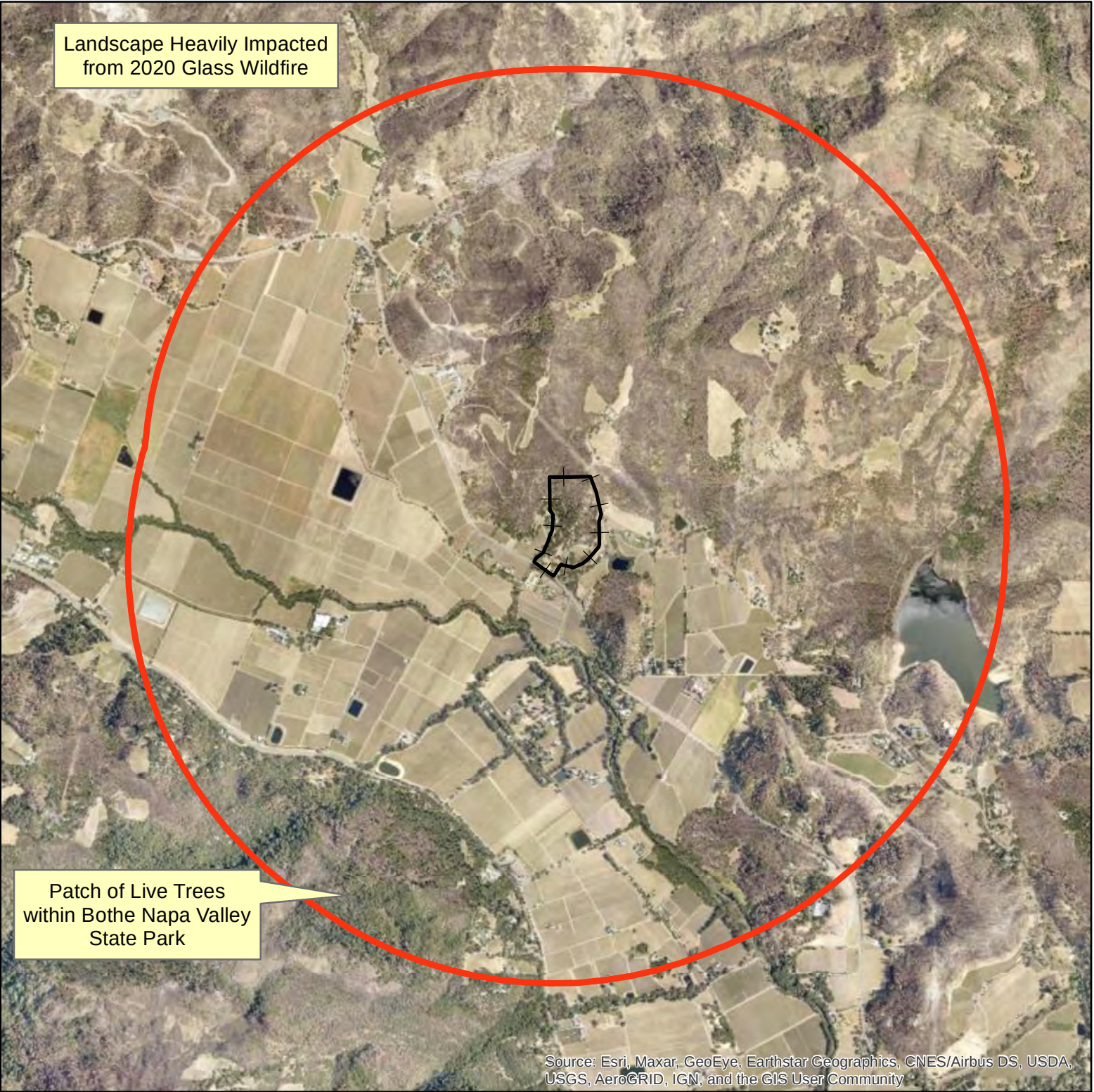
Forest Ecosystem Management



1 inch = 417 feet

Date: 3/24/2023

NSO Habitat within 1.3 Miles of Miller Project Area



Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Legend

Property Boundary

NSO Assessment Area

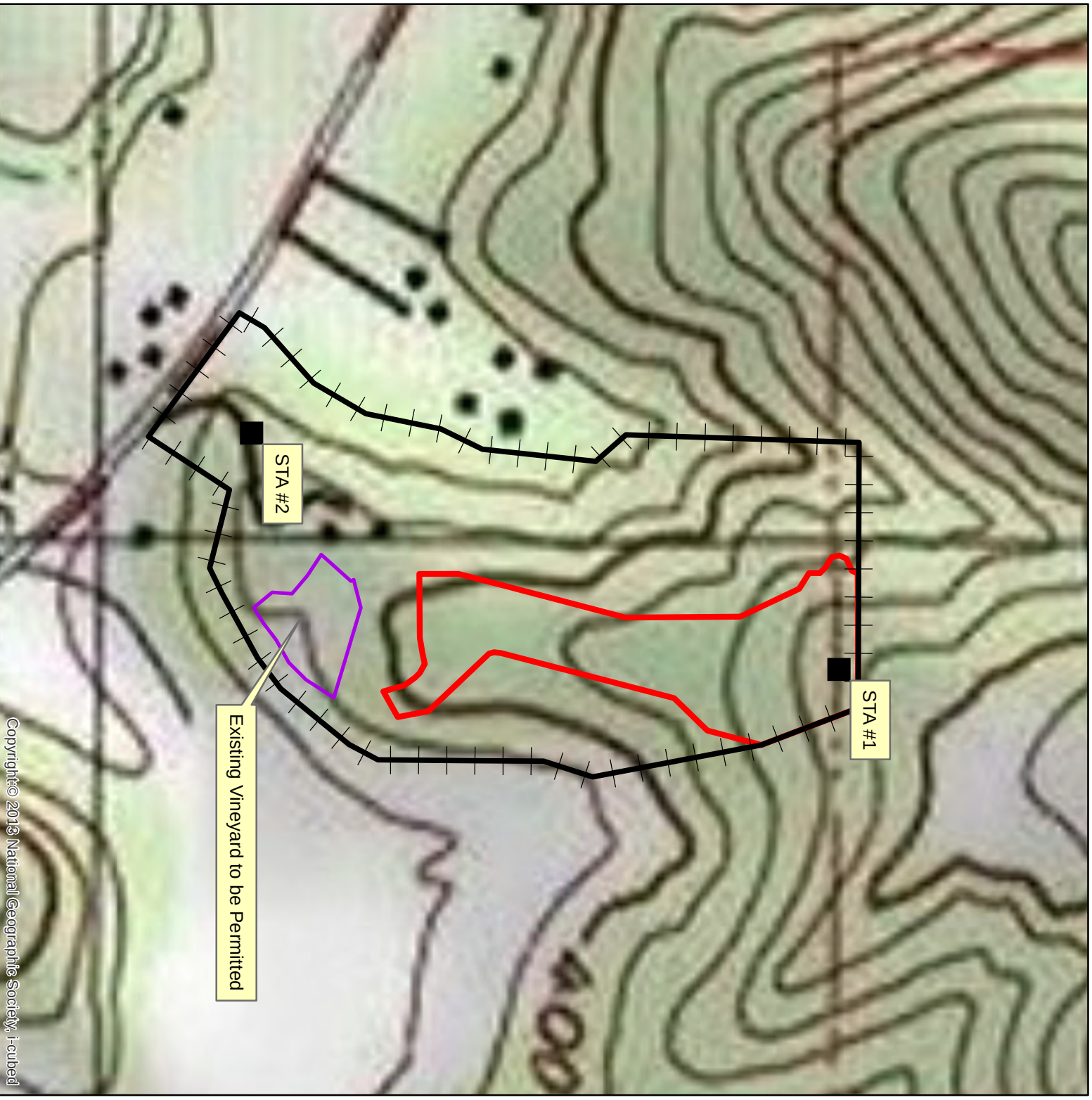
N

1 inch = 2,917 feet

Date: 2/22/2023

Appendix B

Northern Spotted Owl Survey Stations for Miller Project



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- NSO Survey Station

Section 10 T08N, R06W MDB&M

Parcel #: 021-030-006

Napa County

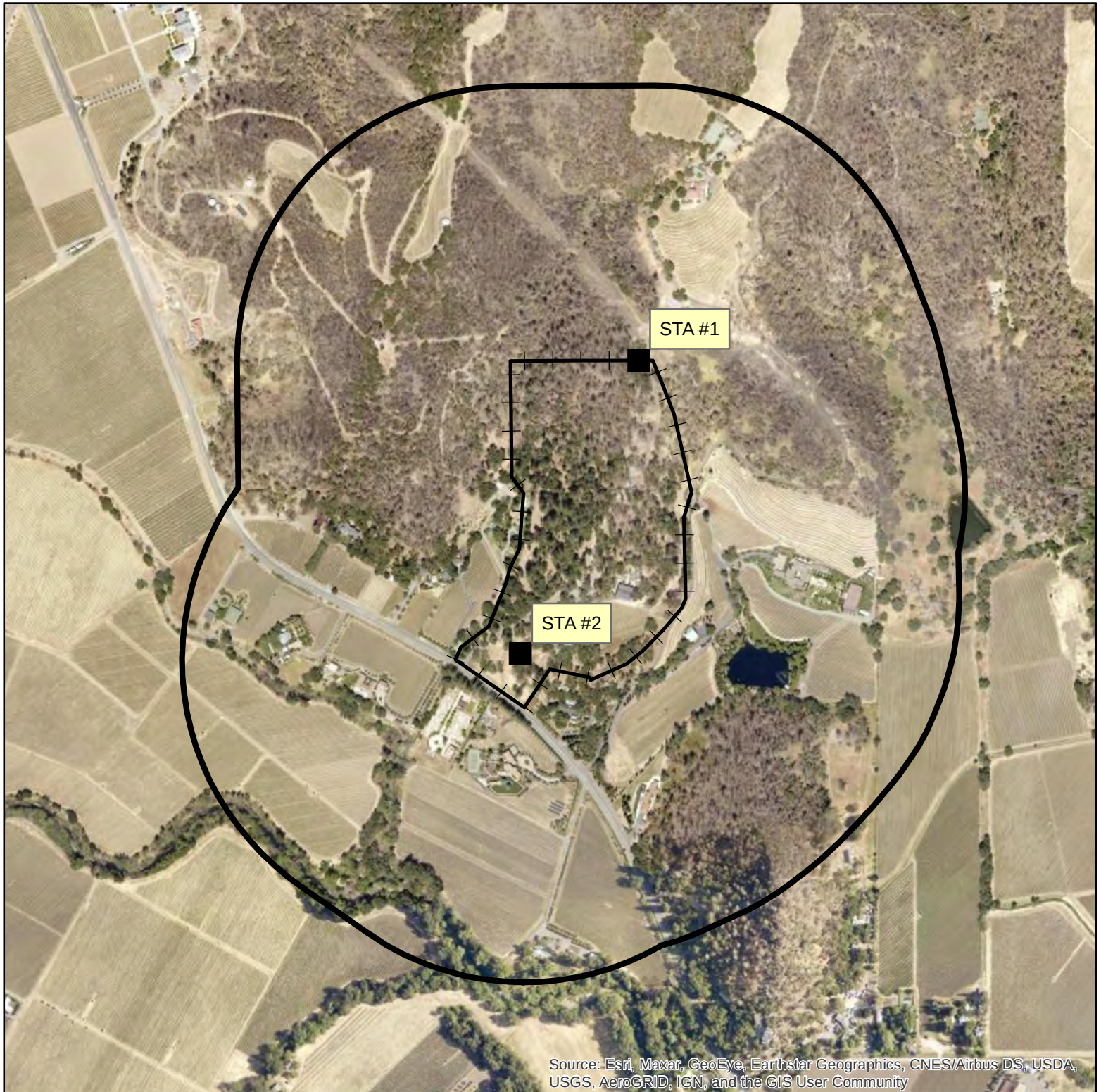
Forest Ecosystem Management



1 inch = 417 feet

Date: 3/24/2023

Miller Project - Survey Area



Legend

- Property Boundary
- Survey Assessment Area (1/4 Mile)
- NSO Survey Station

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management
Page 149



1 inch = 833 feet

Date: 2/22/2023

Appendix B