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Biological Resource Assessment

Nights in White Satin Winery Use Permit P22-00236-UP
Planning Commission Hearing - August 20, 2025

BIOLOGICAL RESOURCES ASSESSMENT

LEDE FAMILY WINES
NAPA COUNTY, CALIFORNIA

MAY 2020

PREPARED FOR:

Twin Peaks Winery, Inc.
1473 Yountville Cross Rd.
Yountville, CA 94599

PREPARED BY:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
(916) 447-3479
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LEDE FAMILY WINERY PROJECT

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1.0 INTRODUCTION

This Biological Resources Assessment analyzes potential environmental impacts associated with the Lede Family Winery Project (Proposed Project) in Napa County, California (**Figures 1** and **2**). The Proposed Project consists of the construction of a winery and associated infrastructure on approximately 10.95 acres (project site) within an approximately 121-acre property. The Study Area consists of approximately 30.94 acres (Assessor Parcel Numbers 047-380-010 and 047-380-009), and includes the project site, watercourses, and road frontage, with a 50-foot buffer along each (**Figure 3**). A biological survey was conducted within the Study Area on May 12, 2020. Survey methodologies, results, and recommended mitigation measures are presented herein.

1.1 PROJECT DESCRIPTION

The Proposed Project consists of the development of a winery and supporting infrastructure, including access driveways, water supply, and wastewater treatment. The Study Area is located just southeast of Arrowhead Mountain in Napa County, and is bounded by Highway 12 to the north and Neunschwander Road to the south. Surrounding areas consist of vineyard and open space (**Figure 3**). The Study Area occurs within the U.S. Geological Survey (USGS) 7.5-minute "Napa, California" topographic quadrangle. Elevations range from 92 to 236 feet (28 to 72 meters) above mean sea level.

2.0 REGULATORY SETTING

The following section summarizes applicable federal, state, and local regulations.

2.1 FEDERAL

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) implement the Federal Endangered Species Act (FESA) of 1973 (16 USC Section 1531 et seq.). Threatened and endangered species on the federal list (50 CFR Subsection 17.11, 17.12) are protected from "take" (direct or indirect harm), unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered to a lead federal agency. Under FESA, habitat loss is considered an impact to the species.

Migratory Bird Treaty Act

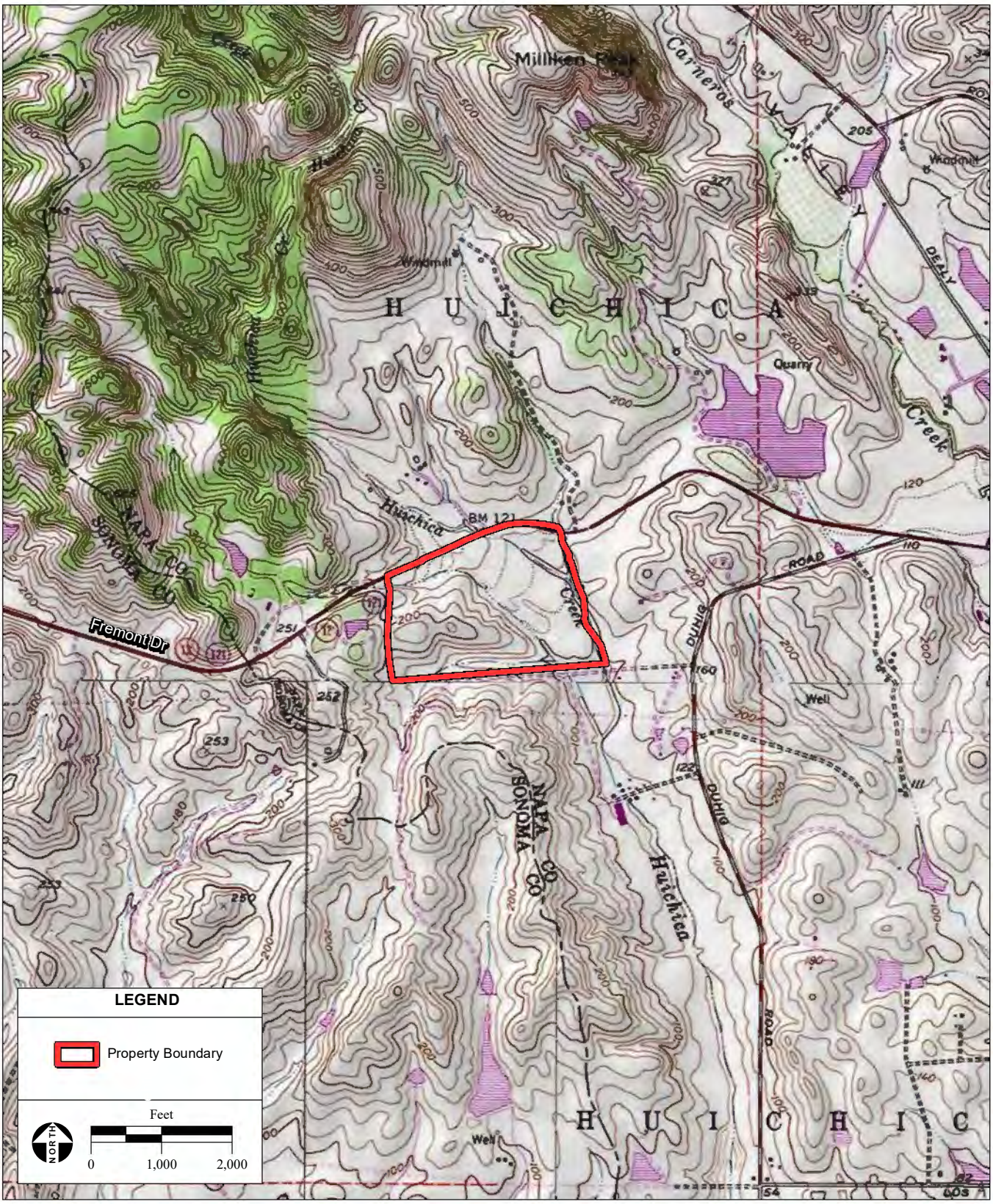
Under the Migratory Bird Treaty Act of 1918 (16 USC Subsection 703-712), migratory bird species and their nests and eggs are protected from injury or death. Project-related disturbances must be reduced or eliminated during the nesting cycle. Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. Fish and Game Code Section 3511 lists protected birds that cannot be taken except under specific permitting.

Bald and Golden Eagle Protection Act

The Bald Eagle Protection Act was enacted in 1940 and later amended to include golden eagles (16 USC Subsection 668-668). The Bald and Golden Eagle Protection Act prohibits take, possession, and commerce in bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions. The statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses.

SOURCE: NatGeo 2020; AES, 3/16/2020

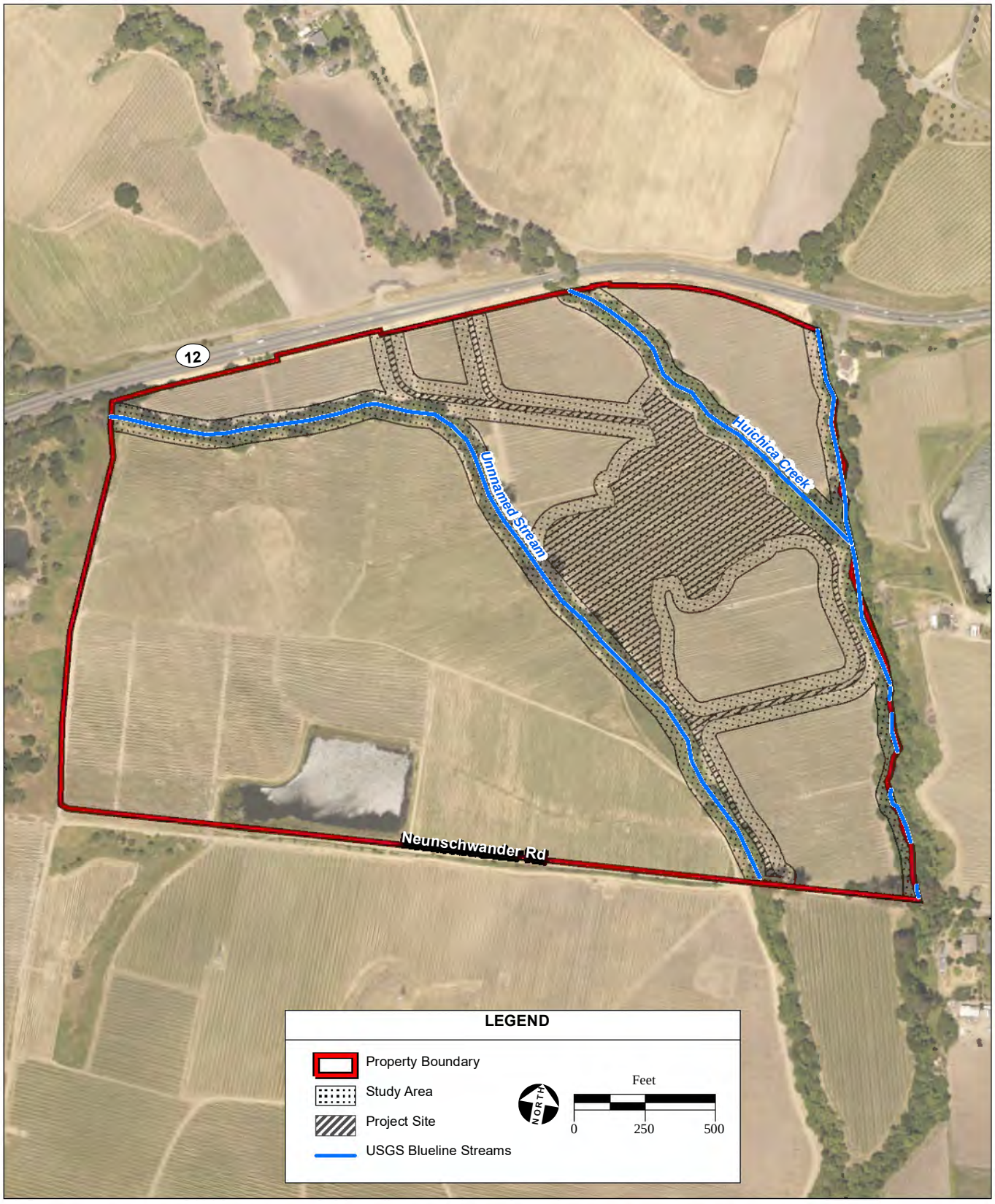
Figure 1
Regional Location



Lede Family Wines BRA / 220513 ■

SOURCE: "Napa, CA" USGS 7.5 MinuteTopographic Quadrangle,
T5N, R5W, Unsectioned Area of Huichica, Mt. Diablo Baseline & Meridian;
AES, 3/16/2020

Figure 2
Site and Vicinity



SOURCE: DigitalGlobe Aerial Photograph, 10/24/2018; AES, 2/20/2020

Lede Family Wines BRA / 220513 ■

Figure 3
Aerial Photograph

Wetlands and Waters of the U.S.

Projects that involve working in navigable waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the United States Army Corps of Engineers (USACE), under Section 404 of the Clean Water Act.

2.2 STATE

Waters of the State

CDFW requires notification prior to commencement, and possibly a Lake or Streambed Alteration Agreement (SAA) pursuant to Fish and Game Code Subsection 1601-1616, 5650, if a project were to result in the alteration or degradation of a stream, river, or lake in California. The Regional Water Quality Control Board may require State Water Quality Certification (Clean Water Act Section 401 permit) before other permits are issued.

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) implements State regulations concerning fish, wildlife, and associated habitats. The California Endangered Species Act (CESA) of 1970 (California Fish and Game Code [Fish and Game Code] Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). A CESA permit must be obtained if a project were to result in the take of listed species during construction or operation. Under CESA, CDFW is responsible for maintaining a list of species that are threatened, endangered, or of special concern (Fish and Game Code 2070).

California Environmental Quality Act Guidelines Section 15380

California Environmental Quality Act (CEQA) *Guidelines* Section 15380(b) and (d) provide that a species not listed on federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. Criteria have been modeled after the definition of FESA and the section of the Fish and Game Code dealing with rare or endangered plants or animals.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. The California Native Plant Society (CNPS) inventories native flora of California and ranks species according to rarity. Plants with California Rare Plant Rank (CRPR) 1A, 1B, 2A and 2B are considered special-status species. CRPR 1A plants are presumed extinct in California and CRPR 1B plants are rare or endangered in California and elsewhere. CRPR 2A plants are presumed extirpated in California but are more common elsewhere and CRPR 2B plants are rare, threatened, or endangered in California but are more common elsewhere. CRPR 3 is a watch list for plants about which more information is needed. CRPR 4 is a watch list for plants of limited distribution.

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act (California State Senate Bill 1334) became law on January 1, 2005 and was added to the CEQA statutes as 21083.4. The conversion of oak woodlands on agricultural land used to produce or process plant and animal products for commercial purposes is exempt from mitigation under this law. One or more of the following mitigation measures are required should a project be determined to significantly impact oak woodlands:

1) Conserve oak woodlands through the use of conservation easements;
2) Plant an appropriate number of trees, including maintenance of plantings and replacement of failed plantings;
3) Contribute funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and
4) Other mitigation measures developed by the county.

2.3 LOCAL

Napa County General Plan

Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County, 2009), including the following goals and policies concerning biological resources:

Open Space Conservation Policies

Policy CON-1: The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

Policy CON-2: The County shall identify, improve, and conserve Napa County's agricultural land by:

a) Requiring existing significant vegetation be retained and incorporated into agricultural projects to reduce soil erosion and to retain wildlife habitat. When retention is found to be infeasible, replanting of native or non-invasive vegetation shall be required, and
b) Minimizing pesticide and herbicide use and encourage research and use of Integrated pest control methods such as cultural practices, biological control, host resistance, and other factors.

Policy CON-5: The County shall identify, improve, and conserve Napa County's rangeland through the following measures:

a) Providing a permanent means of preservation of open space areas for rangeland.
b) Encouraging responsible brush removal techniques with adequate environmental safeguards, leaving uncleared islands and peninsulas to provide cover for wildlife.
c) Staging land conversion operations to minimize adverse environmental impact on the watershed.
d) Encouraging livestock management activities to avoid long-term destruction of rangeland productivity and watershed capacity through overgrazing, erosion, or damage to riparian areas.
e) Encouraging replanting of depleted areas to restore rangeland productivity and/or restore native biological resource values.
f) Coordinating rangeland management programs with those of other counties, the State of California, and the federal government in areas where vegetation conversion programs are planned.
g) Protecting trees and shrubs on rangelands for wildlife habitat and aesthetic purposes and encouraging alternate uses of rangelands, such as wildlife and open space, if grazing is phased out.

Natural Resource Goals and Policies

Goal CON-1: The County of Napa will conserve resources by determining the most appropriate use of land, matching land uses and activities to the land's natural suitability, and minimizing conflicts with the natural environment and the agriculture it supports.

Goal CON 2: Maintain and enhance the existing level of biodiversity.

Goal CON-3: Protect the continued presence of special-status species, including special-status plants, special-status wildlife, and their habitats, and comply with all applicable state, federal or local laws or regulations.

Goal CON-4: Conserve, protect, and improve plant, wildlife, and fishery habitats for all native species in Napa County.

Goal CON-5: Protect connectivity and continuous habitat areas for wildlife movement.

Policy CON-10: The County shall conserve and improve fisheries and wildlife habitat in cooperation with governmental agencies, private associations and individuals in Napa County.

Policy CON-11: The County shall maintain and improve fisheries habitat through a variety of appropriate measures, including the following as well as best management practices (BMPs) developed over time.

a) Control sediment production from mines, roads, development projects, agricultural activities, and other potential sediment sources.
b) Implement road construction and maintenance practices to minimize bank failure and sediment delivery to streams.

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:

a) Maintain the following essentials for fish and wildlife resources:
    1. Sufficient dissolved oxygen in the water.
    2. Adequate amounts of proper food.
    3. Adequate amounts of feeding, escape, and nesting habitat.
    4. Proper temperature through maintenance and enhancement of streamside vegetation, volume of flows, and velocity of water.
b) 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.
c) Provide protection for habitat supporting special-status species through buffering or other means.
d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.

e) 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.
f) Require temporary or permanent buffers of adequate size (based on the requirements of the subject special-status species) to avoid nest abandonment by birds and raptors associated with construction and site development activities.
g) Demonstrate compliance with applicable provisions and regulations of recovery plans for federally listed species.

Policy CON-14: To offset possible losses of fishery and riparian habitat due to discretionary development projects, developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Such mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within Napa County, enhancing existing riparian habitat, or paying in-kind funds to an approved fishery and riparian habitat improvement and acquisition fund. Replacement habitat may occur either on-site or at approved off-site locations, but preference shall be given to on-site replacement.

Policy CON-15: The County shall establish and update management plans protecting and enhancing the County's biodiversity and identify threats to biological resources within appropriate evaluation areas, and shall use those plans to create programs to protect and enhance biological resources and to inform mitigation measures resulting from development projects.

Policy CON-16: The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the Napa County Baseline Data Report, California Natural Diversity Database (CNDDB), or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The County shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies.

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:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
c) Promote protection from overgrazing and other destructive activities.
d) 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.
e) 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:

a) In sensitive domestic water supply drainages where new development is required to retain 40 to 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
c) Preservation of habitat and connectivity of adequate size, quality, and configuration to support special-status species should be required within the Study Area. The size of habitat and connectivity to be preserved shall be determined based on the specifics needs of the species.
d) 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.
e) 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 February 16, 2007 to offset the impact caused by the new vineyard development.
f) The County shall disseminate information about impacts that fencing has on wildlife movement in wild land areas of the County and encourage property owners to use permeable fencing.
g) The County shall develop a program to improve and continually update its database of biological information, including identifying threats to wildlife habitat and barriers to wildlife movement.
h) Support public acquisition, conservation easements, in-lieu fees where on-site mitigation is infeasible, and/or other measures to ensure long-term protection of wildlife movement areas.

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-20: The County shall monitor biodiversity and habitat connectivity throughout the County and apply appropriate adaptive management practices as necessary to achieve applicable Natural Resources Goals. Changing conditions may include external forces such as changing state or federal requirements, or changes in species diversity, distribution, etc.

Policy CON-21: The County shall initiate and support efforts relating to the identification, quantification, and monitoring of species biodiversity and habitat connectivity throughout Napa County.

Policy CON-22: The County shall encourage the protection and enhancement of natural habitats which provide ecological and other scientific purposes. As areas are identified, they should be delineated on environmental constraints maps so that appropriate steps can be taken to appropriately manage and protect them.

Policy CON-26: Consistent with Napa County's Conservation Regulations, natural vegetation retention areas along perennial and intermittent streams shall vary in width with steepness of the terrain, the nature of the undercover, and type of soil. The design and management of natural vegetation areas shall consider habitat and water quality needs, including the needs of native fish and special-status species and flood protection where appropriate.

Site-specific setbacks shall be established in coordination with Regional Water Quality Control Boards, CDFW, USFWS, NMFS, and other coordinating resource agencies that identify essential stream and stream reaches necessary for the health of populations of native fisheries and other sensitive aquatic organisms within the County's watersheds. Where avoidance of impacts to riparian habitat is infeasible along stream reaches, appropriate measures will be undertaken to ensure that protection, restoration, and enhancement activities will occur within these identified stream reaches that support or could support native fisheries and other sensitive aquatic organisms to ensure a no net loss of aquatic habitat function and value within the county's watersheds.

Policy CON-27: The County shall enforce compliance and continued implementation of the intermittent and perennial stream setback requirements set forth in existing stream setback regulations, provide education and information regarding the importance of stream setbacks and the active management and enhancement/restoration of native vegetation within setbacks, and develop incentives to encourage greater stream setbacks where appropriate. Incentives shall include streamlined permitting for certain vineyard proposals on slopes between 5 and 30 percent and flexibility regarding yard and road setbacks for other proposals.

Oak Woodlands Goals and Policies

Goal CON-6: Preserve, sustain, and restore forests, woodlands, and commercial timberland for their economic, environmental, recreation, and open space values.

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:

a) 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 agricultural projects.
b) Comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) 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 residential, commercial, and industrial approvals.
c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 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.
d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil protection, and soil production be left standing.
e) Maintain, to the extent feasible, a mixture of oak species to ensure acorn production. Black, canyon, live, brewer, blue, white, scrub, and live oak are common associations.
f) Encourage and support the County Agricultural Commission's enforcement of state and federal regulations concerning Sudden Oak Death and similar future threats to woodlands.

Policy CON-28: To offset possible additional losses of riparian woodland due to discretionary development projects and conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved riparian woodland habitat improvement and acquisition fund in Napa County. While on-site replacement is preferred where feasible, replacement habitat may be either on-site or off-site as approved by the County.

Policy CON-29: The County shall coordinate its efforts with other agencies and districts such as the Resource Conservation District and share a leading role in developing and providing outreach and education related to stream setbacks and other BPMs that protect and enhance the County's natural resources.

Policy CON-30: All public and private projects shall avoid impacts to wetlands to the extent feasible. If avoidance is not feasible, projects shall mitigate impacts to wetlands consistent with state and federal policies providing for no net loss of wetland function.

Water Resources Policies

Policy CON-6: The County shall impose conditions on discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

Policy CON-41: The County will work to protect its watersheds and public and private water reservoirs to provide for the following purposes:

a) Clean drinking water for public health and safety;
b) Municipal uses, including commercial, industrial and domestic uses;
c) Support of the eco-systems;
d) Agricultural water supply;
e) Recreation and open space; and
f) Scenic beauty.

Policy CON-42: County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

a) Support environmentally sustainable agricultural techniques and BMPs that protect surface water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).

Policy CON-45: Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean and reliable drinking water consistent with state regulations and guidelines. Continue implementation of current Conservation Regulations relevant to these areas, such as vegetation retention requirements, consultation with water purveyors/system owners, implementation of erosion controls to minimize water pollution, and prohibition of detrimental recreational uses.

Policy CON-48: Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or storm water pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

Napa County Code

Stream Setbacks

Napa County Code defines streams and provides setbacks for land clearing for agricultural development. Under Section 18.108.030, a "stream" means any of the following:

1) A watercourse designated by a solid line or dash and three dots symbol on the largest scale of the USGS maps most recently published, or any replacement to that symbol;
2) Any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 (horizontal to vertical bank ratio) and contains hydrophilic (i.e., water-adapted) vegetation, riparian vegetation or woody vegetation including tree species greater than ten feet in height; or
3) Those watercourses listed in Resolution No. 94-19 and incorporated herein by reference.

Erosion gullies and ravines being repaired with the technical assistance and/or under the direction of the Napa County Resource Conservation District/National Resource Conservation Service, "scour-holes," and other non-linear features are not considered streams. Napa County Code 18.108.025 applies setbacks for agricultural development adjacent to streams. Setbacks range from 35 to 150 feet measured from the top of bank and increase with the slope of the terrain parallel to the top of bank.

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 percent):

- 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 six inches in diameter or larger, measured at diameter breast height, (DBH), or tree stands of trees six inches 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.
- Wherever 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.

Napa County Code 18.108.027 requires that as part of any use involving earth-disturbing activity in sensitive domestic water supply drainages, the following vegetation-retention requirements apply:

- A minimum of 60 percent of the tree canopy cover on the parcel or holding existing on June 16, 1993 along with any understory vegetation, and
- When vegetation consists of shrub and brush without tree canopy, a minimum of 40 percent of the shrub, brush and associated annual and perennial herbaceous vegetation.

3.0 METHODOLOGY

3.1 PRELIMINARY DATA REVIEW

Prior to conducting the biological surveys, biological information for the Study Area was obtained from the following sources:

- USFWS list, generated February 18, 2020, of federally listed special-status species with the potential to occur on and near the Study Area (USFWS, 2020a) (**Attachment 1**);
- CNPS query generated February 18, 2020, of state and federally listed special-status species known to occur on quads Sonoma, Napa, Sears Point, and Cuttings Wharf, which generated a list of potential CRPR 1 through CRPR 4 plants that may occur within or in the vicinity of the Study Area (CNPS, 2020) (**Attachment 1**);
- CNDDB query, generated February 18, 2020, of state and federally listed special-status species known to occur on quads Sonoma, Napa, Sears Point, and Cuttings Wharf (CDFW, 2020a) (**Attachment 1**);
- Custom Soil Resource Report for Napa County, NRCS, generated for the Study Area on February 18, 2020 (NRCS, 2020) (**Attachment 2**).
- National Marines Fisheries Service (NMFS) West Coast Region (WCR) species list (NMFS, 2016) (**Attachment 1**).
- National Wetlands Inventory (NWI) database of wetlands and surface waters within the Study Area (USFWS, 2020b).

3.2 SURVEY TECHNIQUES

A biological resources survey of the Study Area was conducted on May 12, 2020. The survey was conducted by walking meandering transects throughout and around the Study Area. Data was collected via a Trimble Geo XH hand-held GPS receiver. Survey goals consisted of identifying habitat types, sensitive habitats, wetlands and waters of the U.S. and state, plant and wildlife species, special-status species, and potential wildlife corridors.

Botanical assessment followed protocols described in the *General Rare Plant Survey Guidelines* (CDFW, 2002), *Botanical Survey Guidelines of the California Native Plant Society* (CNPS, 2001), *The Jepson Manual* (Baldwin, 2012), and Hickman, 1993a and 1993b. Plants are usually identified when in bloom; but other methods can be used to identify rare plants not in bloom. Features that can be examined outside of the bloom period include vegetative, dried flower, or fruit morphology, as well as skeletal plant remains from previous seasons. Not all species flower each year and some may only flower at maturity, therefore those species must be identified based on vegetative characteristics.

Napa County Vegetation Alliance data designates specific habitat types present in the region. Habitat types mapped in Napa County by the University of California Davis's Information Center for the Environment (ICE) (Thorne et al. 2004) were mapped onto the Study Area and refined based on survey observations. CDFW considers sensitive biotic communities to be those listed on the CNDDB. Sensitive biotic communities are designated by CDFW, considered by local experts to be of limited distribution, and/or considered to be waters of the U.S. or State by Napa County (NCBDR, 2005;). Habitat requirements of special-status species were compared to habitats identified on the Study Area based on surveys and aerial photographs.

Wildlife was identified by calls, scat, remains, or direct sight. Evidence of dens, nests, or burrows, if present, were assessed to indirectly identify potentially occurring wildlife on the Study Area. Aerial photos were reviewed to assess habitats surrounding the Study Area for potential wildlife movement, wildlife corridors, or movement barriers. Field methodology for identifying corridors for movement included searching for game trails or habitat that would favor movement of wildlife or potential gene flow. Existing and proposed barriers were examined to determine current movement potential within the Study Area and whether the Proposed Project would impact movement.

4.0 ENVIRONMENTAL SETTING

4.1 SOIL TYPES

A soil assessment for the Study Area was prepared online through the NRCS (**Attachment 2**; **Figure 4**). The Study Area consists of Bale clay loam (0 to 2 percent slopes), Diablo clay (5 to 9 percent slopes), Diablo clay (15 to 30 percent slopes), and Haire clay loam (2 to 9 percent slopes). Bale clay loam (0 to 2 percent slopes) consists of somewhat poorly drained, rare flood risk soil with a parent material of alluvium derived from rhyolite and/or alluvium derived from igneous rock with a soil profile of clay loam and stratified gravelly sandy loam to loam. The Diablo clay (5 to 9 percent slopes) consists of well-drained, no frequency of flooding soil with a parent material of residuum weathered from calcareous shale with a soil profile of clay. Diablo clay (15 to 30 percent slopes) consist of well-drained, no frequency of flooding soil with a parent material of alluvium derived from sedimentary rock with a soil profile of mostly clay loam. Haire clay loam (2 to 9 percent) consists of moderately well drained, no flood risk soils with a parent material of alluvium derived from sedimentary rock.

4.2 VEGETATION ALLIANCES

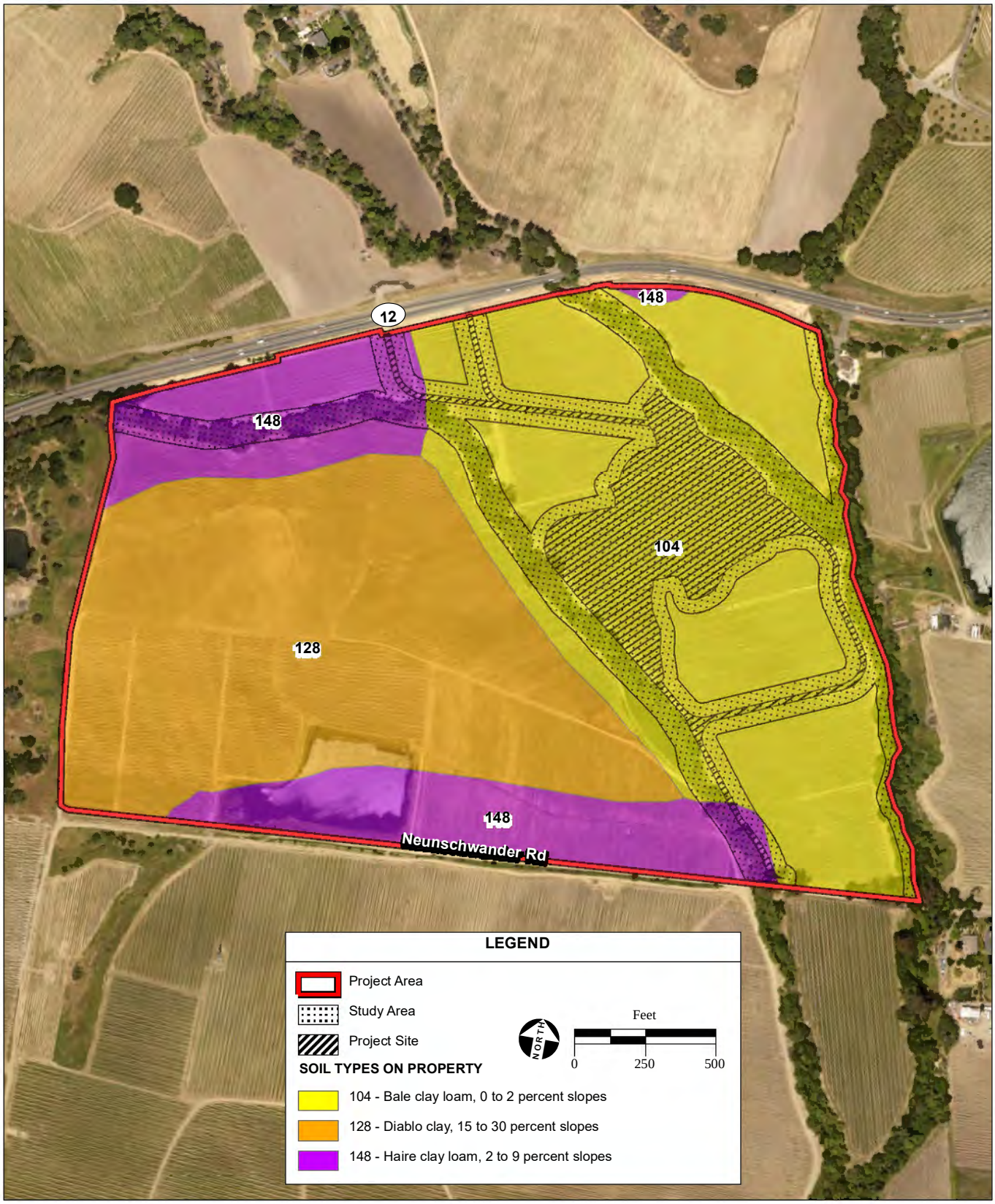
Vegetation alliances or biotic communities are the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region in Napa County, based on the County baseline data report (Napa County, 2005). Vegetation Alliances are shown in **Figure 5**. Vegetation alliances within the Study Area include: Coast Live Oak Alliance, Valley Oak – Fremont Cottonwood – (Coast Live Oak) Riparian Forest NFD Association, and Agriculture. The Study Area contains existing vineyard and existing unpaved roadways for on-site operations. Huichica Creek and an unnamed tributary bisect the property within the Study Area.

Coast Live Oak Alliance

Approximately 0.13 acres of the Study Area consists of Coast Live Oak Alliance. The overstory of this community is composed of coast live oak (*Quercus agrifolia*), Douglas fir, and California bay.
This habitat type can be found on low elevation dry coastal or mesic inland slopes south of Mendocino County in the Coast and Ranges Sections. Annual nonnative grasses occur in the understory. Oak woodlands are afforded protection through the Napa County General Plan (Policy CON-24).

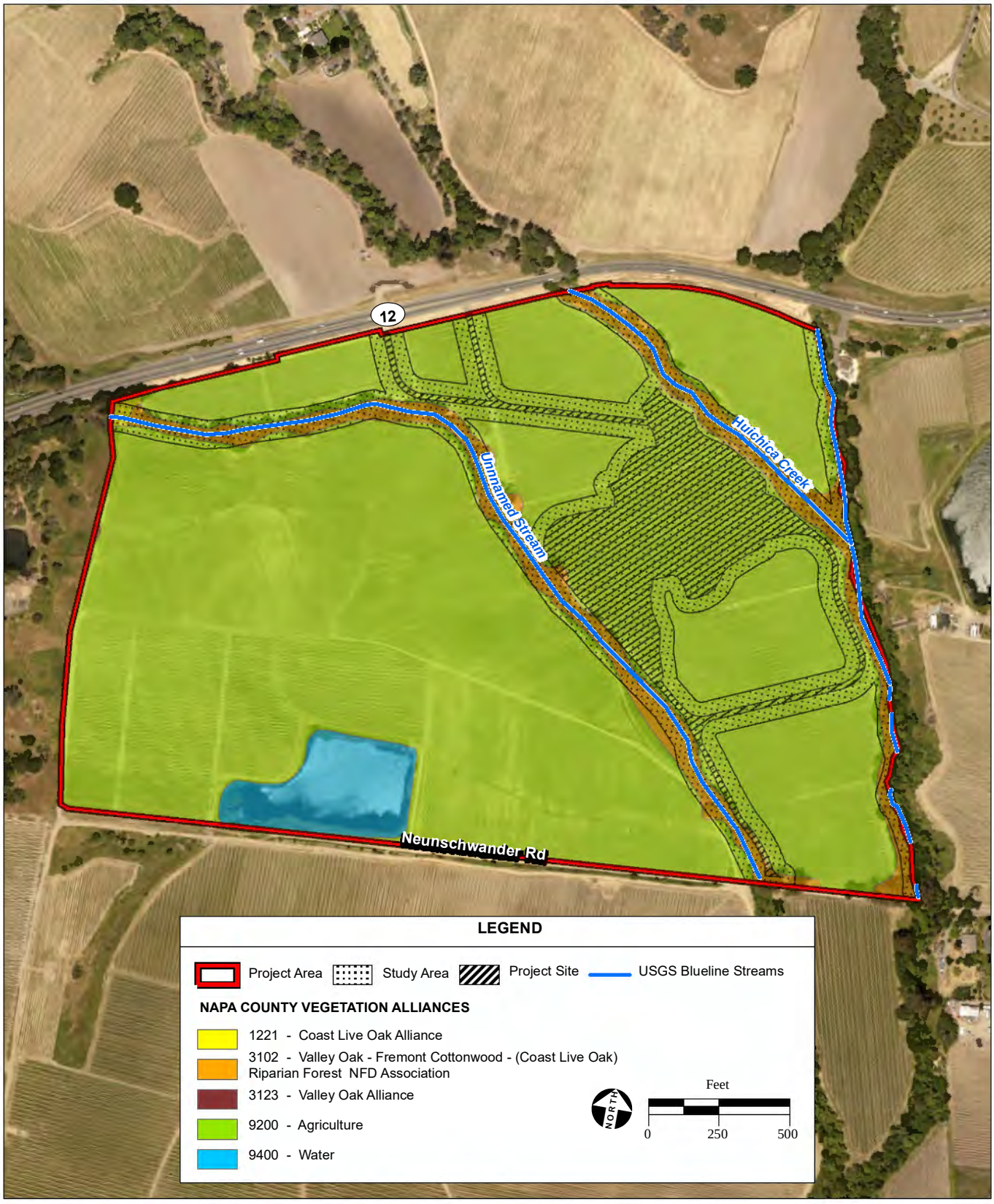
Valley Oak – Fremont Cottonwood – (Coast Live Oak) Riparian Forest NFD Association

Approximately 8.83 acres of the Study Area consists of Valley Oak-Fremont Cottonwood-(Coast Live Oak) Riparian Forest NFD Association. Valley oak riparian woodlands are characterized by California bay, coast live oak, walnut or ash co-dominance, or Fremont cottonwood and coast live oak co-dominance. Valley oak riparian woodlands are considered especially valuable in terms of the ecosystem services they provide: protecting water quality and providing wildlife habitat. A dense riparian canopy was observed with approximately 60-70% cover at the time of survey.



SOURCE: USDA NRCS Soil Survey of Napa County, updated 9/2019; DigitalGlobe Aerial Photograph, 10/24/2018; AES, 5/14/2020

Figure 4
Soil Types



SOURCE: Napa County Vegetation Alliances, 2018; DigitalGlobe Aerial Photograph, 10/24/2018; AES, 5/15/2020

Lede Family Wines BRA / 220513 ■

Figure 5
Vegetation Alliances

Riparian vegetation consisted of Valley oak (*Quercus lobate*) and coast live oak (*Quercus agrifolia*), with California bay laurel (*Umbellularia californica*), California buckeye (*Aesculus californica*), Bigleaf maple (*Acer macrophyllum*), and Red willow (*salix laevigata*).

Agriculture

Approximately 21.98 acres of the Study Area consists of agriculture, specifically vineyard. Several grape varieties are grown including Chardonnay, Gamay Noir, Marsanne, Sauvignon Blanc, Rousanne, and Pinot Noir. Agriculture is managed/disturbed and is not considered sensitive or of limited distribution.

4.3 Wetlands and Waters of the U.S. and State

The NWI database was queried to determine previously mapped wetland and waters of the U.S. and state within the property (**Figure 6**). Wetlands were not observed within the Study Area during the survey. Potential waters of the U.S. or state within the Study Area include one potential perennial stream and two intermittent streams. All three creeks are seasonally flooded, intermittent streams according to the NWI (USFWS, 2020b). One intermittent stream bisects the property and converges with Huichica Creek south of the property boundary. Another intermittent stream converges with Huichica Creek in the northeast corner. Huichica Creek bounds the property's eastern border. Huichica Creek and tributaries are largely incised with steep slopes.

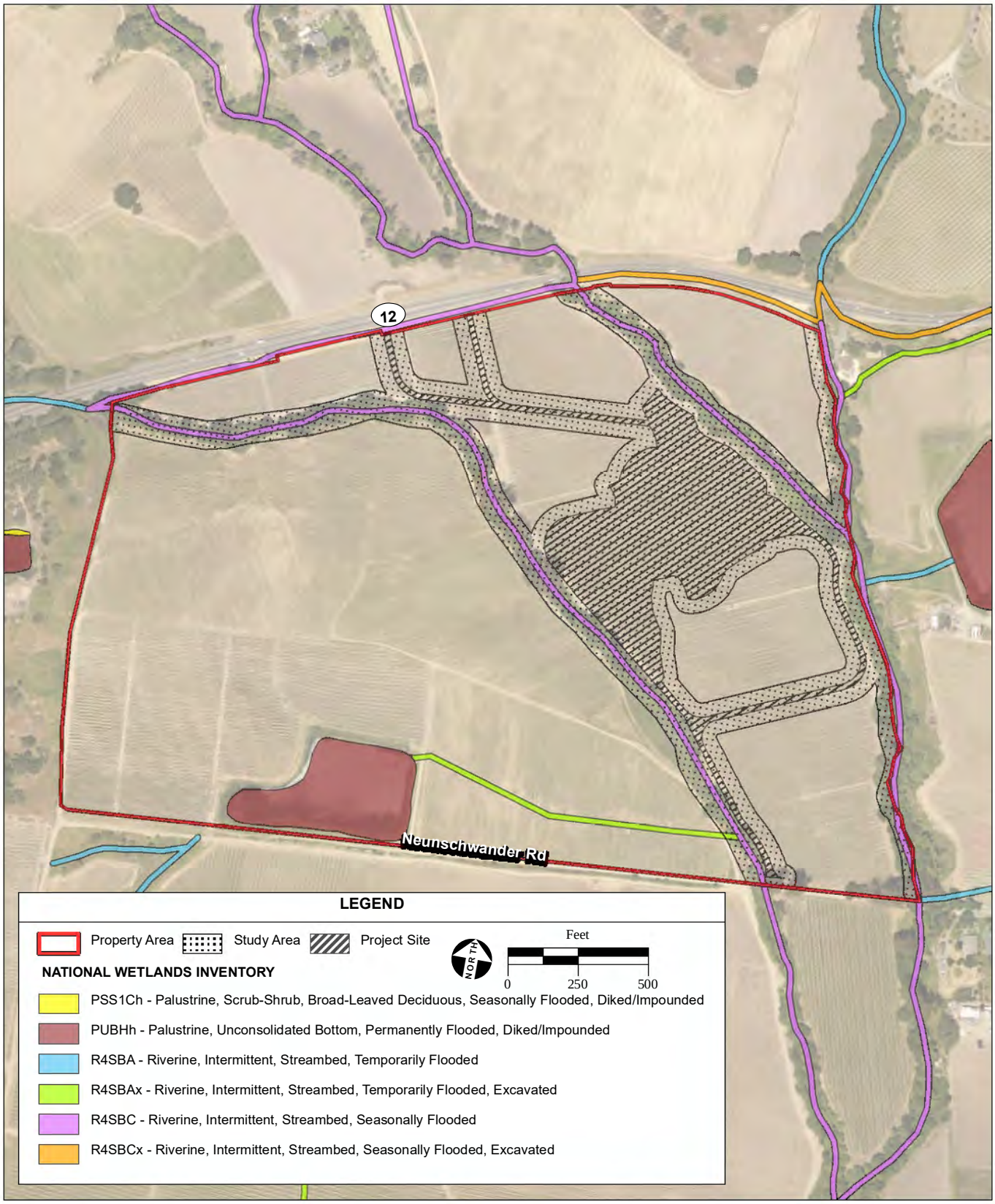
4.4 Species Observed

Dominant plant species that were observed on the Study Area include: Valley oak (*Quercus lobate*), Coast live oak (*Quercus agrifolia*), California bay laurel (*Umbellularia californica*), California buckeye (*Aesculus californica*), Bigleaf maple (*Acer macrophyllum*), Red willow (*salix laevigata*), Elm (*Ulmus sp.*), Poison oak (*Toxicodendron diversilobum*), Common storksbill (*Erodium cicutarium*), Burr Clover (*Medicago polymorpha*), Soft brome (*Bromus hordeaceus*), Common wild oat (*Avena fatua*), English plantain (*Plantago lanceolate*), and Wall barley (*Hordeum murinum*). A list of plant species observed is included in **Attachment 3**.

Wildlife species observed within the Study Area included: great blue heron (*Ardea Herodias*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), house wren (*Troglodytes aedon*), western bluebird (*Sialia Mexicana*), American crow (*Corvus brachyrhynchos*), red-winged blackbird (*Agelaius phoeniceus*), cliff swallow (*Petrochelidon pyrrhonota*), great egret (*Ardea alba*), turkey vulture (*Cathartes aura*), violet-green swallow (*Tachycineta thalassina*), California quail (*Callipepla californica*), California scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculatus*), American robin (*Turdus migratorius*), nuttall's woodpecker (*Picoides nuttallii*), house finch (*Haemorhous mexicanus*), Pacific-slope fly catcher (*Empidonax difficilis*). Bobcat scat and vole burrows were also observed. Small tadpoles of an unidentified frog species were also observed in Huichica Creek.

4.5 Critical Habitat

Designated Critical Habitat occurs within the Study Area but does not occur within the project site (**Attachment 1**). Huichica Creek, which bisects the northeastern corner of the Study Area along the eastern border, is designated by NMFS as critical habitat for steelhead (NMFS, 2020).



SOURCE: USFWS National Wetlands Inventory for "Santa Rosa SE, CA". 100k Topographic Quadrangle, 1976; DigitalGlobe Aerial Photograph, 10/24/2018; AES, 5/14/2020

Figure 6
National Wetlands Inventory

4.6 WILDLIFE MOVEMENT

The property is not part of an identified wildlife movement corridor (Napa County, 2005). The property is currently unfenced and contains stream corridors as well as the dirt access roads (**Figure 3**). The surrounding area consists primarily of vineyard with some open space to the northwest, and Highway 12 to the north. These developments isolate the property from potential habitat and limit movement.

4.7 SPECIAL-STATUS SPECIES

Preliminary data review and special-status species searches list 45 special-status plant species and 24 special-status animal species with the potential to occur in the region (**Table 1**). Further analysis determined that six special-status species plant species and four special-status animal species have the potential to occur within the Study Area. Species with no potential to occur were ruled out based on negative survey results and lack of suitable soils, elevations, substrates, and habitat requirements. No special-status species were observed during the survey.

5.0 RESULTS & RECOMMENDED MITIGATION

5.1 SENSITIVE HABITATS

Approximately 0.13 acres of Coast Live Oak Alliance and 8.83 acres of Valley Oak - Fremont Cottonwood - (Coast Live Oak) Riparian Forest NFD Association occur within the Study Area. Oak woodlands and riparian habitats are afforded protection by Napa County. However, these habitats are not within the project site. The project consists of agriculture, which is not considered sensitive. Sensitive habitats do not occur within the project site and would not be impacted.

5.2 WETLANDS AND WATERS OF THE U.S. AND STATE

Two intermittent streams and a perennial stream (Huichica Creek) occur within the Study Area. Huichica Creek is a Class I stream. A tributary to the Huichica mainstem converges with Huichica Creek in the northeast corner of the property, and an unnamed stream bisects the property from the northwest to the southeast to converge with Huichica Creek south of the property boundary. Construction activities near streams that meet the Napa County definition of a stream will maintain setbacks in compliance with the Napa County Code of Ordinance, Conservation Regulations Code 18.108.025. **Table 2** shows the Napa County required stream setbacks per stream slope.

TABLE 2
NAPA COUNTY STREAM SETBACKS

Stream Slope (%)	Required Setback
< 1 %	35 feet
1 – 5 %	45 feet
5 – 15 %	55 feet
15 – 30 %	65 feet
30 – 40 %	85 feet
40 – 50 %	105 feet
50 – 60 %	125 feet
60 – 70 %	150 feet

TABLE 1
REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Plants					
Allium peninsulare var. franciscanum Franciscan onion	--/--/1B.2	Known to occur in Mendocino, Santa Clara, San Mateo, and Sonoma counties.	Often on dry hillsides with cismontane woodland, valley and foothill grasslands. Grows in clay, volcanic, or serpentinite. Elevations range from 53-305 m.	May-July	**No,** the Study Area lacks dry hillsides within cismontane woodland and valley and foothill grassland suitable to support this species.
Amorpha californica var. *napensis* Napa false indigo	--/--/1B.2	Know to occur in Lake, Monterey, Marin, Napa, and Sonoma counties.	Found in broad-leafed upland forest (openings), chaparral, and cismontane woodland habitats. Elevations range from 0-2000 m.	April-July	**No,** the Study Area lacks broad-leafed upland forest (openings), chaparral, and cismontane woodland suitable to support this species.
Antirrhinum virga twig-like snapdragon	--/--/4.3	Known to occur in Lake, Mendocino, Napa, Sonoma, and Yolo counties.	Found in rocky, often serpentinite soils. Found in openings in chaparral and lower montane coniferous forest. Elevations range from 100-2015 m.	June-July	**No,** the Study Area lacks openings in chaparral and lower montane coniferous forest suitable to support this species.
Arctostaphylos bakeri ssp. *bakeri* Baker's manzanita	--/CR/1B.1	Known to occur only in central Sonoma county south of Guerneville.	Often serpentinite, broadleafed upland forest, and chaparral. Elevations range from 75-300 m.	February-April	**No,** the Study Area lacks broad-leafed upland forest and chaparral suitable to support this species.
Astragalus tener var. *tener* Alkali milk-vetch	--/--/1B.2	Known to occur in Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, Santa Clara, San Francisco, San Joaquin, Solano, Sonoma, Stanislaus, and Yolo counties. Presumed extirpated in Contra Costa, Monterey, San Benito, Santa Clara, San Francisco, San Joaquin, Sonoma, and Stanislaus counties.	Found on thin clay or alkaline soils and in playas. Grows in valley and foothill grassland and vernal pools. Elevations range from 1-200 m.	March-June	**No,** the Study Area lacks grassland suitable to support this species.
Balsamorhiza macrolepis var macrolepis big-scale balsamroot	--/--/1B.2	Known to occur in Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties.	Open grassy open slopes, sometimes serpentinite. Chaparral, cismontane woodland, and valley and foothill grasslands. Elevations range from 45-1555 m.	March-July	**No,** the Study Area lacks grassland suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Blennosperma bakeri Sonoma sunshine	FE/CE/1B.1	Known to occur in Mendocino and Sonoma Counties.	Annual herb found in valley and foothill grasslands, grassy margins of swales, and vernal pools. Elevations range from 10-110 m.	March-May	**No,** the Study Area lacks grassland, grassy margins of swales, and vernal pools suitable to support this species.
Brodiaea leptandra narrow-flowered California brodiaea	--/--/1B.2	Know to occur in Lake, Napa and Sonoma counties.	A perennial bulbiferous herb found in mixed-evergreen forest, broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. Usually on gravelly soils. Elevations range from 40-1,220 m.	May-July	**No,** the Study Area lacks grassland suitable to support this species.
Calandrinia breweri Brewer's calandrinia	--/--/4.2	Known to occur in Contra Costa, Lake, Los Angeles, Mendocino, Marin, Mono, Monterey, Mariposa, Napa, Orange, Riverside, Santa Barbara, San Bernardino, Santa Clara, Santa Cruz, San Diego, Shasta, San Luis Obispo, San Mateo, Solano, Sonoma, Tehama, Tulare, Tuolumne, and Ventura counties.	Found in disturbed habitats and burns, with sandy to loamy soils. Grows within chaparral, northern coastal scrub, and coastal sage scrub. Elevations range from 10 to 1220 m.	January-June	**Yes**. Suitable habitat to support this species occurs within the Study Area. No CNDDB occurrences of this species have been recorded within ten miles of the Study Area.
Carex lyngbyei Lyngbye's sedge	--/--/2B.2	Known to occur in Del Norte, Humboldt, Mendocino, and Marin counties.	Marshes and swamps (brackish or freshwater). Elevations range from 0-10 m.	April-August	**No,** the Study Area lacks marshes and swamps suitable to support this species.
Castilleja ambigua ssp. *ambigua* Johnny-nip	--/--/4.2	Known to occur in Alameda, Contra Costa, Del Norte, Humboldt, Mendocino, Marin, Napa, Santa Cruz, San Francisco, San Luis Obispo, San Mateo, and Sonoma counties.	Found in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pool margin habitats. Elevations range from 0-435 m.	March-August	**No,** the Study Area lacks grassland suitable to support this species.
Ceanothus confusus Rincon Ridge ceanothus	--/--/1B.1	Known to occur in Lake, Mendocino, Napa, and Sonoma counties.	Found in closed-cone coniferous forest, chaparral, and cismontane woodland habitats in volcanic or serpentinite soils. Elevations range from 75-1065 m.	February-June	**No,** the Study Area lacks soils suitable to support this species.
Ceanothus sonomensis Sonoma ceanothus	--/--/1B.2	Known to occur in Napa and Sonoma counties.	Chaparral (sandy, serpentinite, or volcanic soils). Elevations from 215-800 m.	February-April	**No,** the Study Area lacks sandy, serpentine, and volcanic soils suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Centromadia parryi ssp. parryi pappose tarplant	--/--/1B.2	Known to occur in Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, Sonoma, and Yolo Counties.	Found in chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), and valley and foothill grassland (mesic, alkaline). Elevations range from 2-420 m.	May-November	**No,** the Study Area lacks grassland suitable to support this species.
Chloropyron molle ssp. *molle* Soft salty bird's-beak	FE/CR/1B.2	Known to occur in Contra Costa, Napa, and Solano, as well as Marin, Sacramento, and Sonoma (though may be extirpated).	Marshes and swamps (coastal salt). Elevations range from 0-3 m.	July-November	**No,** the Study Area lacks marshes and swamps suitable to support this species.
Chorizanthe valida Sonoma spineflower	FE/CE/1B.1	Known to occur in Marin and Sonoma counties. Only known extant occurrences are in Marin County.	Annual herb found in coastal prairie on sandy soils. Elevations range from 10-305 m.	June-August	**No,** the Study Area lacks sandy soils suitable to support this species.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	--/--/4.2	Known to occur in Colusa, Humboldt, Lake, Mendocino, Napa, Tehama, and Trinity counties.	Found in chaparral openings. Usually found in serpentinite soils. Elevations range from 65-650 m.	April-July	**No,** the Study Area lacks chaparral opening and serpentine soils suitable to support this species.
Downingia pusilla dwarf downingia	--/--/2B.2	Known to occur in Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties. Also occurs in South America.	Valley and foothill grassland (mesic) and vernal pools and roadside ditches. Elevations range from 1-445 m.	March-May	**No,** the Study Area lacks mesic grassland, vernal pools, and roadside ditches suitable to support this species.
Eleocharis parvula Small spikerush	--/--/4.3	Known to occur in Butte, Mono, Napa, Glenn, Contra costa, Humboldt, Orange, Plumas, San Luis Obispo, Siskiyou, Sonoma, and Ventura counties.	Found in coastal salt marshes and within wetlands.	July-August	**No,** the Study Area lacks wetland suitable to support this species.
Erigeron biolettii Streamside daisy	--/--/3	Known to occur in Humboldt, Mendocino, Marin, Napa, Solano, and Sonoma counties.	Found in broadleaf upland forest, cismontane woodland, and North Coast coniferous forest habitats. Found in rocky, mesic soils. Elevations range from 30-1100 m.	June-October	**No,** the Study Area lacks suitable broadleaf upland forest, cismontane woodland, and North Coast coniferous forest with mesic conditions suitable to support this species.
Erigeron greenei Greene's narrow-leaved daisy	--/--/1B.2	Known to occur in Colusa, Lake, Napa, and Sonoma counties.	Found in chaparral, woodland, and conifer forests on serpentine, volcanic soils, sometimes rocky alluvium. Elevations range from 80-1600 m.	May-September	**No,** the Study Area lacks serpentine, volcanic, and rocky alluvium suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Extriplex joaquinana San Joaquin spearscale	--/--/1B.2	Known to occur in Alameda, Contra Costa, Colusa, Fresno, Glenn, Merced, Monterey, Napa, San Benito, Santa Clara, San Joaquin, San Luis Obispo, Solano, Tulare, and Yolo counties. Presumed extirpated in Santa Clara, San Joaquin, and Tulare counties. Unconfirmed in San Luis Obispo and Tulare counties.	Found in alkaline soils and in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland habitats. Elevations range from 1-835 m.	April-October	**No,** the Study Area lacks grassland suitable to support this species.
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	--/--/1B.2	Known to occur in Lake, Mendocino, Marin, San Francisco, San Mateo and Sonoma counties.	An annual herb occurs in grassy sites, marsh edges, roadsides, and valley and foothill grasslands. Elevations range from 20-560 m.	April-November	**Yes.** Suitable habitat to support this species occurs within the Study Area. Three CNDDB occurrences (11, 37, 39) have been recorded within ten miles of the Study Area. The most recent occurrence (39) was recorded in 1931.
Horkelia tenuiloba thin-lobed horkelia	--/--/1B.2	Known to occur in Mendocino, Marin, and Sonoma counties.	Perennial herb found in mesic openings within sandy soils in broad-leafed upland forest, chaparral, and valley and foothill grassland. Elevations range from 50-500 m.	April-August	**No,** the Study Area lacks mesic openings suitable to support this species.
Juglans hindsii Northern California black walnut	--/--/1B.1	Known to occur in Contra Costa, Lake, Napa, Sacramento, Solano, and Yolo counties. Identity is uncertain in Lake county and it is presumed extirpated in Sacramento, Solano, and Yolo counties.	Found in riparian forest and riparian woodland. Elevations range from 0-440 m.	Bloom Period: April-May Identifiable: Year-round	**Yes**. Suitable habitat to support this species occurs within the Study Area. No CNDDB occurrences of this species have been recorded within ten miles of the Study Area.
Lasthenia conjugens Contra Costa goldfields	FE/--/1B.1	Known to occur in Alameda, Contra Costa, Sonoma, Monterey, Marin, Napa, as well as Santa Barbara, Mendocino, and Santa Clara counties (though may be extirpated).	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, and Vernal pools/mesic. Elevations range from 0-470 m.	March-June	**No,** the Study Area lacks mesic areas suitable to support this species.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	--/--/1B.2	Known to occur in Contra Costa, Napa, Sacramento, San Joaquin, Solano, Sonoma, and Yolo counties.	Marshes and swamps (freshwater and brackish). Elevations range from 0-5 m.	May-September	**No,** the Study Area lacks marshes and swamps suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Legenere limosa Legenere	--/--/1B.1	Known to occur in Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties.	Annual herb occurs in wet areas, ponds, and vernal pools. Elevations range from 1-950 m.	April-June	**Yes.** Suitable habitat to support this species occurs within the Study Area. One CNDDB occurrence (7) was recorded within 10 miles of the Study Area in 1990.
Leptosiphon acicularis Bristly leptosiphon	--/--/4.2	Found in Alameda, Butte, Colusa, Humboldt, Lake, Mendocino, Marin, Napa, Placer, San Benito, Santa Clara, San Mateo, and Sonoma counties.	Coastal Prairie, Chaparral, and Foothill Woodland. Elevations range from 33 to 3150 feet.	April-July	**No,** the Study Area lacks coastal prairie, chaparral, and foothill woodland suitable to support this species.
Leptosiphon jepsonii Jepson's leptosiphon	--/--/1B.2	Known to occur in Lake, Napa, and Sonoma counties.	Found in chaparral and cismontane woodland (usually volcanic), and open or partially shaded grassy slopes. Elevations range from 100-500 m.	March-May	**No,** the Study Area chaparral and cismontane woodland suitable to support this species.
Lessingia hololeuca woolly-headed lessingia	--/--/3	Known to occur in Alameda, Monterey, Marin, Napa, Santa Clara, San Mateo, Solano, Sonoma, and Yolo counties.	Found in clay, serpentinite soils in broad-leafed upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Elevations range from 13-305 m.	June-October	**No,** the Study Area lacks serpentine soils suitable to support this species
Lilaeopsis masonii Mason's lilaeopsis	--/CR/1B.1	Known to occur in Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, and Yolo counties.	Found in marshes and swamps (brackish or freshwater), and riparian scrub. Elevations range from 0-10 m.	April-November	**Yes.** Suitable habitat to support this species occurs within the Study Area. Two CNDDB occurrences (10 and 143) were recorded within 10 miles of the Study Area. The most recent occurrence (10) was recorded in 2011.
Lilium rubescens Redwood lily	--/--/4.2	Known range includes Del Norte, Glenn, Humboldt, Lake, Mendocino, Napa, Santa Cruz, Shasta, Siskiyou, Sonoma and Trinity counties.	Occurs in broadleaf upland forest, chaparral, and lower/upper/north coast montane coniferous forest in sometimes serpentinite soils and sometimes on roadsides. Elevations range from 30 to 1910 m.	April - August	**No,** the Study Area lacks suitable habitat to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Lomatium repostum Napa lomatium	--/--/4.3	Known to occur in Lake, Napa, Solano, and Sonoma counties.	Found in chaparral and cismontane woodland habitats. Found in serpentinite soils. Elevations range from 90-830 m.	March-June	**No,** the Study Area lacks serpentine soils suitable to support this species.
Lupinus sericatus Cobb Mountain lupine	--/--/1B.2	Known to occur in Colusa, Lake, Napa, and Sonoma counties.	Found on slopes with open broadleaf upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Elevations range from 275-1,525 m.	March-June	**No,** the Study Area is outside of the elevational range suitable to support this species.
Micropus amphibolus Mt. Diablo cottonweed	--/--/3.2	Known to occur in Alameda, Contra Costa, Colusa, Lake, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, Solano, and Sonoma counties.	Found in broadleaf upland forest, chaparral, cismontane woodland, and valley and foothill grassland habitats. Openings on slopes, ridges, shallow soils, and sedimentary or volcanic rocks. Elevations range from 45-825 m.	March-May	**No,** the Study Area lacks sedimentary or volcanic rocks suitable to support this species.
Monardella viridis Green monardella	--/--/4.3	Known to occur in Lake, Napa, Solano, and Sonoma counties.	Found in broadleaf upland forest, chaparral, cismontane woodland and serpentine substrates. Elevation range from 100-1010 m.	June-September	**No,** the Study Area lacks serpentine soils suitable to support this species.
Polygonum marinense Marin Knotweed	--/--/3.1	Known to occur in Alameda, Humboldt, Marin, Napa, Solano, and Sonoma Counties.	Found in coastal salt marsh and wetland/riparian habitats. Elevations range from 0-10m	May-August	**Yes.** Suitable habitat to support this species occurs within the Study Area. Three CNDDB occurrences (3, 5, and 14) were recorded within 10 miles of the Study Area. The most recent occurrence (5) was recorded in 2009.
Ranunculus lobbii Lobb's aquatic buttercup	--/--/4.2	Known to occur in Alameda, Contra Costa, Mendocino, Marin, Napa, Santa Cruz, San Mateo, Solano, and Sonoma counties.	Found in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, ponds and vernal pool habitats. Found in mesic soils. Elevations range from 15-470 m.	February-May	**No,** the Study Area does not contain mesic soils suitable to support this species.
Symphyotrichum lentum Suisun marsh aster	--/--/1B.2	Known to occur in Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo counties.	Found in marshes and swamps (brackish and freshwater). Elevations range from 0-3 m.	May-November	**No,** the Study Area lacks marshes and swamps to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Trichostema ruygtii Napa bluecurls	--/--/1B.2	Known to occur in Lake, Napa, and Solano counties.	Found in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Often in seasonally saturated, vernal pools with thin clay soils. Elevations range from 30-680 m.	June-October	**No,** the Study Area lacks grassland suitable to support this species.
Trifolium amoenum two-fork clover	FE/--/1B.1	Known to occur in Marin and San Mateo counties, as well as Alameda, Napa, Santa Clara, Solano, and Sonoma counties (though may be extirpated/uncertain).	Found on moist, heavy serpentinite soils, and occasionally in disturbed areas. Often in coastal bluff scrub, valley and foothill grasslands. Elevations range from 5 - 415 m.	April-June	**No,** the Study Area lacks serpentine soils suitable to support this species.
Trifolium hydrophilum saline clover	--/--/1B.2	Known to occur in Alameda, Contra Costa, Lake, Colusa, Monterey, Napa, Sacramento, Sonoma, Solano, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, and Yolo counties. Unconfirmed in Colusa county.	Found in marshes and swamps and valley and foothill grassland that are occasionally on mesic, alkaline soils, and vernal pools. Elevations range from 0-300 m.	April-June	**No,** the Study Area lacks marshes, swamps, and mesic soils suitable to support this species.
Triteleia lugens Coast range (dark-mouthed) Triteleia	--/--/4.3	Known to occur in Lake, Monterey, Napa, San Benito, Solano, and Sonoma counties.	Found in broadleaf upland forest, chaparral, coastal scrub, lower montane coniferous forest. Elevations range from 100-1000 m.	April-June	**No**, the Study Area lacks suitable habitat to support this species.
Viburnum ellipticum oval-leaved viburnum	--/--/2B.3	Known to occur in Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Mariposa, Napa, Placer, Shasta, Solano, Sonoma, and Tehama counties.	Found in chaparral, cismontane woodland, and lower montane coniferous forest. Generally north facing slopes. Elevations range from 215-1400 m.	May-August	**No**, the Study Area lacks suitable habitat to support this species.
Animals					
Fish					
Pogonichthys macrolepidotus Sacramento splittail	--/CSC/--	Endemic to the Central Valley. Occurs below the Red Bluff Diversion Dam in Tehama County to downstream reaches of the Sacramento and American Rivers, and in lower reaches of the Feather, Merced, and the San Joaquin Rivers. Largely confined to the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and	Predominantly freshwater estuarine systems. Prefers low-salinity, shallow-water habitats. Occurs in slow-moving sections of rivers, sloughs, and marshes. Abundance is strongly tied to outflows, because spawning occurs over flooded vegetation.	Consult Agency	**No**, the Study Area lacks aquatic habitat suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
		Sacramento-San Joaquin estuary.			
Eucyclogobius newberryi Tidewater goby	FE/CSC/--	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches. Need fairly still but not stagnant water & high oxygen levels.	Consult Agency	**No,** the Study Area lacks suitable brackish habitat to support this species.
Hypomesus transpacificus Delta smelt	FT/CE/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary from the Suisun Bay through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	**No,** the Study Area lacks suitable aquatic habitat to support this species.
Oncorhynchus mykiss irideus pop. 8 Steelhead-Central California Coast DPS	FT/--/--	Central California Coastal ESU, spawns in drainages from the Russian River basin, Sonoma and Mendocino Counties, to Soquel Creek, Santa Cruz County (including the San Francisco Bay basin, but not the Sacramento and San Joaquin Rivers or their tributaries).	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, need cold water and gravelly streambeds.	Consult Agency	**Yes**, the Study Area may seasonally contain fast-flowing water suitable to support this species. There are four recorded CNDDB occurrences (7, 26, 19, and 4) within 10 miles of the Study Area. The most recent occurrence (7) was recorded in 2003.
Spirinchus thaleichthys Longfin smelt, Bay-Delta DPS	FC/CT/--	Occurs slightly upstream from Rio Vista on the Sacramento River in the Delta including the Cache Slough region and Medford Island on the San Joaquin River in the Delta through Suisun Bay and Suisun Marsh, San Pablo Bay, San Francisco Bay, Gulf of the Farallones, Humboldt Bay, and Eel river estuary and local coastal areas.	Occurs in benthic habitat within medium and large low-grade river systems. Found in open water of estuaries mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Consult Agency	**No**, the Study Area lacks aquatic habitat suitable to support this species.
Amphibians					
Dicamptodon ensatus California giant salamander	--/CSC/--	Known to occur in Mendocino, Lake, Glenn, Sonoma, Marin, San Mateo, Santa Cruz and historically Monterey counties.	Occurs in wet coastal forests near streams and seepages.	N/A	**No**, this Study Area lacks suitable habitat to support this species.
Taricha rivularis Red-bellied newt	--/CSC/--	Known to occur in the Coast Range from Mendocino County to San Diego County. Also known in the Peninsular Ranges, south of Boulder Creek, and in the southern Sierra Nevada foothills.	Occurs primarily in valley-foothill hardwood, hardwood-conifer, coastal scrub, and mixed chaparral. May occur in annual grassland and mixed conifer forest. Elevations up to 1,830 m.	Fall-Late Spring	**No**, the Study Area lacks suitable habitat to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Rana boylii Foothill yellow-legged frog (FYLF)	--/CCT,CSC/--	Known from California and Oregon.	Requires shallow, flowing water in moderate sized streams with some cobble substrate.	November-March (breeding) June-August (non-breeding)	**Yes.** Suitable habitat to support this species occurs within the Study Area. Five CNDDB occurrences (119, 2341, 415, 781, and 387) were recorded within ten miles of the Study Area. The nearest occurrence (781) was recorded 5.5 miles away.
Rana draytonii California red-legged frog (CRLF)	FT/CSC/--	Known to occur along the Mendocino Coast to Baja and inland through the north Sacramento Valley to foothills of the Sierra Nevadas, south to eastern Tulare County, and possibly eastern Kern County. Currently accepted range excludes the Central Valley.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 m.	November – March (breeding) June - August (non-breeding)	**Yes.** Suitable habitat to support this species occurs within the Study Area. Four CNDDB occurrences (733, 225, 272, and 274) were recorded within ten miles of the Study Area.
Birds					
Agelaius tricolor Tricolored blackbird	--/CT/--	California and Baja California, Mexico.	Nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water.	All Year	**No**, the Study Area lacks suitable habitat to support this species.
Athene cunicularia Burrowing owl	--/CSC/--	Formerly common within the described habitats throughout the state except the northwest coastal forests and high mountains.	Yearlong resident of open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats.	All Year	**No**, the Study Area lacks suitable habitat to support this species.
Charadrius alexandrines nivosus Western snowy plover	FT/CSC/--	The Pacific coast breeding population of the western snowy plover (Charadrius alexandrinus nivosus) currently extends from Damon Point, Washington, to Bahia Magdalena, Baja California, Mexico. The snowy plover winters mainly in coastal areas from southern Washington to Central America.	Pacific coast population breeds primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, are found on many beaches used for nesting as well as on beaches where they do not nest, in manmade salt ponds, and on estuarine sand and mud flats.	All Year	**No**, the Study Area lacks suitable habitat to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Aquila chrysaetos Golden eagle	--/FP/--	Known to occur in Alameda, Colusa, Contra Costa, El Dorado*, Fresno, Humboldt, Kern, Lake, Lassen, Los Angeles , Madera, Merced, Modoc, Mono, Monterey, Napa, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Clara, Siskiyou, Solano, Stanislaus, Trinity, Tulare, and Ventura counties.	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions.	February-March	**No**, the Study Area lacks suitable habitat to support this species.
Buteo swainsoni Swainson's hawk	--/CT/--	In California, breeds in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, and in eastern San Luis Obispo County.	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	March – October	**No**, the Study Area lacks suitable habitat to support this species.
Circus cyaneus Northern harrier	--/CSC/--	Permanent residents of the northeastern plateau and coastal areas; less common resident of the Central Valley.	Coastal scrub, Great Basin grassland, marsh and swamp (coastal and fresh water), riparian scrub, valley and foothill grassland, and wetlands. Nests on the ground, usually in tall, dense clumps of vegetation, either alone or in loose colonies. Occurs from annual grassland up to lodgepole pine and alpine meadow habitats as high as 3000 m.	All Year	**No**, the Study Area lacks suitable habitat to support this species.
Coturnicops noveboracensis Yellow rail	--/CSC/--	Found in northeastern interior California during breeding season, the northern California coast during winter, and the Suisun Marsh region.	Breeds in sedge marshes and meadows with moist soil or shallow standing water. Found in wet meadows and coastal tidal marshes in winter.	May-early September (breeding) Late September-April (wintering)	**No**, the Study Area lacks suitable habitat to support this species.
Cypseloides niger Black swift	--/CSC/--	Breeds in the central and southern Sierra, the coastal cliffs and mountains of San Mateo, Santa Cruz, and Monterey counties, the San Gabriel, San Bernardino, and San Jacinto mountains of southern California, and within a small region of the Cascade Range.	Steep cliffs or ocean bluffs with ledges, cavities, or cracks for nesting along shores, inland deep canyons and often behind waterfalls. Forages in a wide variety of habitats including forests, canyons, valleys, and plains. Breeding elevations range from 0-2285 m.	May-July	**No**, the Study Area lacks suitable habitat to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Geothlypis trichas sinuosa Salt-marsh common yellowthroat	--/CSC/--	Breeding range bounded by Tomales Bay on the north, Carquinez Strait on the east, and Santa Cruz county to south, with occurrences in the Bay Area during migration and winter.	Salt, brackish, and freshwater marshes. Nests aboveground or over water in thick herbaceous vegetation often at bases of shrubs or saplings	March-July	**No**, the Study Area lacks thick herbaceous vegetation suitable to support this species.
Elanus leucurus White-tailed kite	--/FP/--	Permanent resident of coastal and Valley lowlands.	Habitats include savannah, open woodland, marshes and swamps, partially cleared lands and cultivated fields, mostly in lowland habitats. Open groves, river valleys, marshes, grasslands. Found in a wide variety of open habitats in North America, including open oak grassland, desert grassland, farm country, marshes. Main requirements seem to be trees for perching and nesting, and open ground with high populations of rodents.	All Year	**Yes.** Suitable habitat to support this species occurs within the Study Area. One CNDDB occurrence (181) was recorded within ten miles of the Study Area in 2018.
Laterallus jamaicensis coturniculus California black rail	--/CT, FP/--	In coastal California during breeding season, presently found at Bodega Bay, Tomales Bay, Bolinas Lagoon, San Francisco Bay estuary, and Morro Bay. Majority of birds in north San Francisco Bay (San Pablo Bay) at relatively few sites. Occurs irregularly south to Baja California. Inland in small numbers in Salton Trough and on lower Colorado River from Bill Williams River (historically) to Laguna Dam.	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation. Most breeding areas vegetated by fine-stemmed emergent plants, rushes, grasses, or sedges. Sites used in coastal California characterized by taller vegetation, greater coverage and height of alkali heath.	All Year	**No**, the Study Area lacks aquatic habitat suitable habitat to support this species.
Melospiza melodia samuelis San Pablo song sparrow	--/CSC/--	Distributed in marshes around San Pablo Bay continuously from Gallinas Creek in the west, along the northern San Pablo bayshore, and throughout the extensive marshes along the Petaluma, Sonoma, and Napa rivers.	Commonly found in saltmarsh, brackish marsh, and fringe areas, where marsh vegetation is limited to edges of dikes, landfills, or other margins of high ground bordering salt or brackish water areas.	All Year	**No**, the Study Area lacks aquatic habitat suitable to support this species.
Riparia riparia Bank swallow	--/CT/--	Known from along the middle Sacramento River and lower Feather River. Also along the central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties.	Colonial nester; nest primarily in riparian scrub, riparian woodland, and other lowland habitats west of the desert. Require vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	All year	**No**, the Study Area lacks vertical banks suitable to support nesting of this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Sternula antillarum browni California least tern	FE/CE/FP	Found along the Pacific Coast of California, from San Francisco southward to Baja California.	Nest in colonies on relatively open beaches kept free of vegetation by natural scouring from tidal action.	All year	**No**, the Study Area lacks aquatic habitat suitable to support this species.
Strix occidentalis caurina Northern spotted owl	FT/CT; CSC/--	Geographic range extends from British Colombia to northwestern California south to San Francisco. The breeding range includes the Cascade Range, North Coast Ranges, and the Sierra Nevada. Some breeding populations also occur in the Transverse Ranges and Peninsular Ranges.	Resides in mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2,300 m. Appear to prefer old-growth forests, but use of managed (previously logged) lands is not uncommon. Owls do not appear to use logged habitat until approximately 60 years after logging unless some larger trees or snags remain after logging. Nesting habitat is a tree or snag cavity, or the broken top of a large tree. Requires a nearby, permanent source of water. Foraging habitat consists of any forest habitat with sufficient prey.	Year-round	**No**, the Study Area lacks forested habitat suitable to support this species.
Mammals					
Antrozous pallidus Pallid bat	--/CSC/--	Locally common species at low elevations. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino county.	Found in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests, generally below 2,000 m. Most common in open, dry habitats with rocky areas for roosting. Roosts include cliffs, abandoned buildings, bird boxes, exfoliating bark, and bridges.	Year-round	**No**, the Study Area lacks rocky areas, abandoned buildings, bird boxes, bridges, and exfoliating bark suitable to support roosting of this species.
Reithrodontomys raviventris Salt-marsh harvest mouse	FE/CE/FP	Only found in the saline emergent wetlands of San Francisco Bay and its tributaries.	Dependent on dense cover and their preferred habitat is pickleweed (Salicornia virginica). Seldom found in cordgrass or alkali bulrush. In marshes with an upper zone of peripheral halophytes (salt-tolerant plants), mice use this vegetation to escape the higher tides, and may spend a considerable portion of their lives there. Mice also move into the adjoining grasslands during the highest winter tides.	All Year	**No**, the Study Area lacks salt marsh habitat suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Sorex ornatus sinuosus Suisun shrew	--/CSC/--	Tidal marshes of the northern shores of San Pablo and Suisun bays.	Occurs in herbaceous wetlands and tidal marshes in dense, low-lying cover of salicornia.	All Year	**No**, the Study Area lacks aquatic habitat suitable to support this species.
Taxidea taxus American badger	--/CSC/--	Found throughout most of California in suitable habitat.	Suitable habitat occurs in the drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Badgers are generally associated with treeless regions, prairies, parklands, and cold desert areas.	All Year	**No**, the Study Area lacks habitats with a prey base suitable to support this species.
Invertebrates					
Bombus occidentalis Western bumble bee	--/CCE/--	Known to occur along the West Coast and Mountain West of North America, including Arizona, New Mexico, Mediterranean California, the Pacific Northwest, and Alaska.	Found in open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. Found at elevations from 0-2000+ m. Nesting occurs underground in abandoned rodent burrows or other cavities.	February-November	**No**, the Study Area lacks suitable habitat to support this species.
Branchinecta conservatio Conservancy fairy shrimp	FE/--/--	Currently known from several populations: the Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los Padres National Forest in Ventura County.	Endemic to vernal pools in the northern two-thirds of the Central Valley.	December-May	**No**, the Study Area lacks vernal pool habitat suitable to support this species.
Branchinecta lynchi Vernal pool fairy shrimp	FT/--/--	Occur from Shasta County through most of the length of the Central Valley to Tulare County, and along the central coast range from northern Solano County to Pinnacles in San Benito County. Five additional, disjunctive populations exist near Soda Lake in San Luis Obispo County, in the mountain grasslands of northern Santa Barbara County, on the Santa Rosa Plateau in Riverside County, near Rancho California in Riverside County.	Vernal pools in the Central Valley, coast ranges, and a limited number of sites in the Transverse Ranges and Riverside County, California.	December-May	**No**, the Study Area lacks vernal pool habitat suitable to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Callophrys mossii bayensis San Bruno elfin butterfly	FE/--/--	Found in coastal mountains near San Francisco Bay, in the fog-belt of steep north facing slopes that receive little direct sunlight. All known locations are restricted to San Mateo County, where several populations are known from San Bruno Mountain, Milagra Ridge, the San Francisco Peninsula Watershed and Montara Mountain.	The San Bruno Elfin Butterfly inhabits rocky outcrops and cliffs in coastal scrub on the San Francisco peninsula. Its host plant, stonecrop (*Sedum spathulifolium*) occurs between 274-328 m although it also has been known to eat Montara Mountain manzanita (*Arctostaphylos montaraensis*) and huckleberry (*Vaccinium ovatum*). Adult food plants have not been fully determined.	Adults emerge in early spring, in February and March Dormant in loose top soil from June until February of the following year.	**No**, the Study Area lacks rocky outcrops and cliff habitat suitable to support this species. Associated host plants were not observed during the survey.
Speyeria callippe callippe Callippe silverspot butterfly	FE/--/--	Restricted to the San Francisco peninsula.	Northern coastal scrub. Hostplant is *Viola pedunculata*. Most adults found on E-facing slopes; males congregate on hilltops in search of females.	Consult Agency	**No**, the Study Area lacks habitat suitable to support this species. Its host plant was not observed during the survey.
Syncaris pacifica California freshwater shrimp	FE/CE/--	Known only throughout Marin, Napa, and Sonoma counties.	Small, low-gradient, perennial coastal streams. Prefers relatively shallow streams with depths of 12-36 inches, exposed live roots of trees such as alder and willow, undercut banks greater than 6 inches, overhanging woody debris or stream vegetation and vines. Elevations range from 0-116 m.	Consult Agency	**No**, the Study Area lacks aquatic habitat suitable to support this species.
Reptiles					
Emys marmorata Western pond turtle	--/CSC/--	Distribution ranges from Washington to northern Baja California.	Inhabit rivers, streams, lakes, ponds, reservoirs, stock ponds, and permanent wetland habitats with basking sites.	Year-round	**No**, there are no suitable basking sites within the aquatic habitat to support this species.
Chelonia mydas Green sea turtle	FT/--/--	Globally distributed and generally found in tropical and subtropical waters along continental coasts and islands between 30° North and 30° South. In the eastern North Pacific, occurs from Baja California to southern Alaska.	Nests on oceanic beaches, feeds in benthic grounds in coastal areas, and frequents convergence zones in the open ocean.	Consult Agency	**No**, the Study Area lacks suitable habitat to support this species.
SOURCE: CDFW, 2020b and **Attachment 1**					

STATUS CODES

FEDERAL: United States Fish and Wildlife Service

FE Federally Endangered
FT Federally Threatened
FC Candidate for Federal Listing

STATE: California Department of Fish and Game

CE California Listed Endangered
CT California Listed Threatened
CCT California Candidate Threatened
CSC California Species of Special Concern
FP California Fully Protected

CNPS: California Native Plant Society (California Rare Plant Rank [CRPR])

1A Plants Presumed Extinct in California
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants about Which We Need More Information – A Review List
4 Plants of Limited Distribution – A Watch List

CNPS Threat Ranks

0.1 - Seriously threatened in California
0.2 - Fairly threatened in California
0.3 - Not Very Threatened in California

For drainages that do not meet the Napa County definition of a stream, 20-foot minimum setbacks are maintained from the top of bank. In addition to Napa County Conservation Regulations Code, California Code of Regulations stipulates that for slopes less than 30 percent there be a 75-foot minimum setback for Class I streams, and a 50-foot minimum setback for Class II streams (14 CCR 916.5). In accordance with setback requirements and on-site bank slopes, 45-foot setbacks would be implemented from the tops of stream banks where slopes are 1 to 5 percent. Additionally, implementation of **Mitigation Measure 1** would reduce potential impacts to potential waters of the U.S. and state.

Mitigation Measure 1

- Temporary construction fencing shall be installed along the edges of stream bank setbacks prior to commencement of earthmoving activities, and shall remain in place until construction in the vicinity of streams has been completed.
- Standard precautions shall be employed by the construction contractor to prevent accidental releases of fuel, oil, lubricant, or other hazardous materials associated with construction activities into nearby streams.

5.3 Special-Status Species

Based on survey results and the review of regionally occurring special-status species and associated habitat requirements, the Study Area may contain suitable habitat for six special-status plant species (Brewer's calandrinia, Congested-headed hayfield tarplant, Northern California black walnut, Legenere, Mason's lilaeopsis, and Marin knotweed) and four special-status animal species (CRLF, FYLF, white-tailed kite, and steelhead [Central California Coast DPS, pop. 8]). No special-status plant species were observed within either the Study Area or project site during the survey, and surveys were timed to the appropriate bloom season. Therefore, special-status plant species do not occur within the Study Area.

The project site consists of vineyard, and does not contain suitable habitat for special-status species. An unidentified species of tadpole was observed in the streams of the Study Area. Streams are not within the project site and would not be impacted by the Proposed Project. Additionally, the incorporation of stream setbacks discussed in Section 5.2 and implementation of **Mitigation Measure 1** would further reduce impacts to potentially occurring special-status aquatic species in nearby streams.

5.4 Nesting Migratory Birds

Areas within 500 feet of construction may provide potential nesting habitat for migratory birds. The general nesting season for migratory birds occurs from February 15 through September 15. Construction activities have the potential to impact populations of nesting migratory birds on the Study Area should such activities occur during the general nesting season. Implementation of **Mitigation Measure 2** would reduce potential impacts to nesting migratory birds.

Mitigation Measure 2

- Should construction activities associated with the Proposed Project occur during the general nesting season (February 15 to September 15), a preconstruction nesting bird survey shall be conducted no more than 7 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests.
- Should an active nest be identified, an avoidance buffer shall be established by a qualified biologist based on the needs of the species identified. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels.

- Avoidance buffers shall remain in place until the end of the general nesting season or upon determination by a qualified biologist that young have fledged or the nest has failed.
- Should work activity cease for 7 days or greater during the breeding season, surveys shall be repeated to ensure birds have not established nests during inactivity.

5.5 CRITICAL HABITAT

Huichica Creek, which flows through the Study Area, is designated as Critical Habitat for steelhead. No designated critical habitat occurs within the project site. Incorporation of stream setbacks discussed in Section 5.2 and implementation of **Mitigation Measure 1** would reduce impacts to nearby streams and critical habitat.

5.6 WILDLIFE MOVEMENT

The project site consists of developed vineyard and is not part of an identified wildlife movement corridor (Napa County, 2005). The surrounding area includes other vineyard, development, and major roadways, which currently limit wildlife movement in the area. Construction of the Proposed Project would occur on previously disturbed agricultural areas and would not impact wildlife movement.

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ATTACHMENT 1

SPECIAL-STATUS SPECIES SEARCHES

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Sonoma (3812234) OR Napa (3812233) OR Sears Point (3812224) OR Cuttings Wharf (3812223))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1	None	None	G5T2	S2	1B.2
Amorpha californica var. napensis Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Blennosperma bakeri Sonoma sunshine	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Brodiaea leptandra narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Calasellus californicus An isopod	ICMAL34010	None	None	G2	S2	
Carex lyngbyei Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ceanothus confusus Rincon Ridge ceanothus	PDRHA04220	None	None	G1	S1	1B.1
Ceanothus sonomensis Sonoma ceanothus	PDRHA04420	None	None	G2	S2	1B.2
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R065	None	None	G5T2	S2	1B.2
Horkelia tenuiloba thin-lobed horkelia	PDROS0W0E0	None	None	G2	S2	1B.2
Hydroprogne caspia Caspian tern	ABNNM08020	None	None	G5	S4	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140	None	None	G2G3	S2S3	1B.2
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Lupinus sericatus Cobb Mountain lupine	PDFAB2B3J0	None	None	G2?	S2?	1B.2
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Vernal Pool Northern Vernal Pool	CTT44100CA	None	None	G2	S2.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Polygonum marinense Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sorex ornatus sinuosus Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
Speyeria zerene sonomensis Sonoma zerene fritillary	IILEPJ6083	None	None	G5T1	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Syncaris pacifica California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
Taricha rivularis red-bellied newt	AAAAF02020	None	None	G4	S2	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trichostema ruygtii Napa bluecurls	PDLAM220H0	None	None	G1G2	S1S2	1B.2
Trifolium amoenum two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 70

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

45 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812234, 3812233 3812224 and 3812223;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2	S2	G5T2
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	Jun-Jul	4.3	S3?	G3?
Arctostaphylos bakeri ssp. bakeri	Baker's manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	G2T1
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	2B.2	S3	G5
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
Chorizanthe valida	Sonoma spineflower	Polygonaceae	annual herb	Jun-Aug	1B.1	S1	G1

Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	4.2	S3	G5T3
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	4.3	S3	G5
Erigeron biolettii	streamside daisy	Asteraceae	perennial herb	Jun-Oct	3	S3?	G3?
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	May-Sep	1B.2	S3	G3
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	1B.2	S2	G2
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	4.2	S4?	G4?
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	4.3	S3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.3	S3	G3
Polygonum marinense	Marin knotweed	Polygonaceae	annual herb	(Apr)May-Aug(Oct)	3.1	S2	G2Q
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	1B.2	S1S2	G1G2
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Triteleia lugens	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	Apr-Jun	4.3	S4?	G4?
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

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United States Department of the Interior

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

In Reply Refer To: February 18, 2020
Consultation Code: 08ESMF00-2020-SLI-1061
Event Code: 08ESMF00-2020-E-03376
Project Name: Lede - Family Wines

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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 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-1061

Event Code: 08ESMF00-2020-E-03376

Project Name: Lede - Family Wines

Project Type: AGRICULTURE

Project Description: Project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.25295091709177N122.36722048472998W

Counties: Napa, CA

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/613

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle *Chelonia mydas* 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 *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Callippe Silverspot Butterfly *Speyeria callippe callippe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3779	Endangered
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Crustaceans

NAME	STATUS
California Freshwater Shrimp *Syncaris pacifica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Contra Costa Goldfields *Lasthenia conjugens* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Showy Indian Clover *Trifolium amoenum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Soft Bird's-beak *Cordylanthus mollis ssp. mollis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered

Critical habitats

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

NMFS WCR CA Species List December 2016

Quad Name **Napa**
Quad Number **38122-C3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - **X**
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

ATTACHMENT 2

NRCS SOILS REPORT

United States Department of Agriculture

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

February 18, 2020

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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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

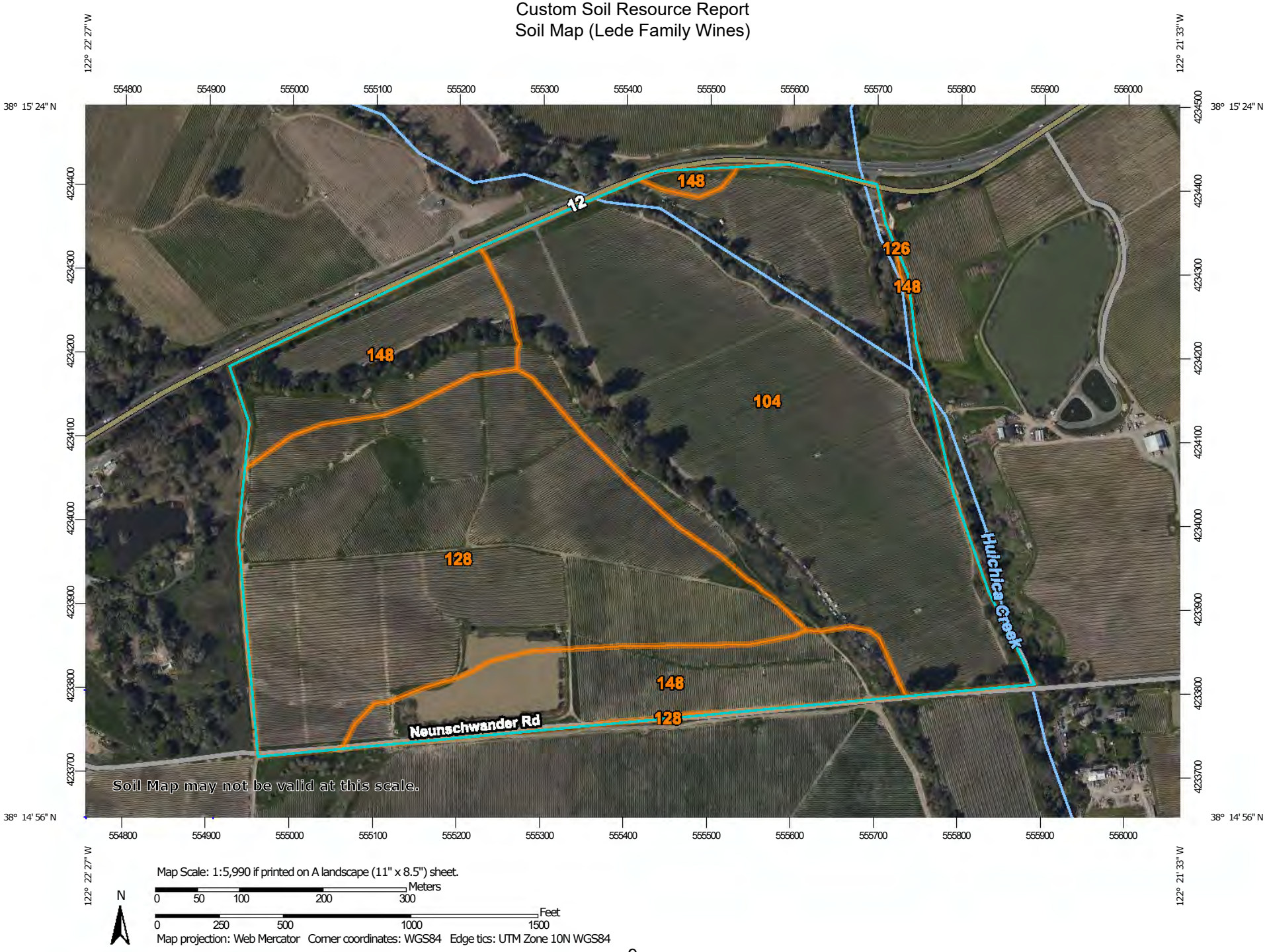
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree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

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

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

Soil Map

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


122° 22' 27" W
122° 21' 33" W
38° 15' 24" N
38° 14' 56" N
554800
554900
555000
555100
555200
555300
555400
555500
555600
555700
555800
555900
556000
4234500
4234400
4234300
4234200
4234100
4234000
4233900
4233800
4233700
148
12
126
104
128
Huichica Creek
Neunschwander Rd
Soil Map may not be valid at this scale.
N
Map Scale: 1:5,990 if printed on A landscape (11" x 8.5") sheet.
Meters
0 50 100 200 300
Feet
0 250 500 1000 1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Napa County, California
Survey Area Data: Version 12, Sep 16, 2019

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

Date(s) aerial images were photographed: Mar 15, 2019—Apr 10, 2019

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

Map Unit Legend (Lede Family Wines)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Bale clay loam, 0 to 2 percent slopes	56.2	45.4%
126	Diablo clay, 5 to 9 percent slopes, MLRA 15	0.0	0.0%
128	Diablo clay, 15 to 30 percent slopes	43.3	34.9%
148	Haire clay loam, 2 to 9 percent slopes	24.4	19.7%
Totals for Area of Interest		**123.9**	**100.0%**

Map Unit Descriptions (Lede Family Wines)

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, talf
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
Natural 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
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: 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

126—Diablo clay, 5 to 9 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2w63c
Elevation: 30 to 1,130 feet
Mean annual precipitation: 16 to 32 inches
Mean annual air temperature: 56 to 60 degrees F
Frost-free period: 290 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Diablo and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Diablo

Setting

Landform: Hillslopes, mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Residuum weathered from calcareous shale

Typical profile

A1 - 0 to 5 inches: clay
A2 - 5 to 18 inches: clay
Bkss1 - 18 to 30 inches: clay
Bkss2 - 30 to 39 inches: clay
Ck - 39 to 53 inches: clay
Cr - 53 to 79 inches: bedrock

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: 40 to 59 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Ecological site: CLAYEY (R015XD001CA)
Hydric soil rating: No

Minor Components

Cropley
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Aridic haploxererts, moderately deep
Percent of map unit: 5 percent
Landform: Hillslopes, mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

128—Diablo clay, 15 to 30 percent slopes

Map Unit Setting
National map unit symbol: hdkx
Elevation: 30 to 3,000 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Not prime farmland

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

Description of Diablo

Setting
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile
H1 - 0 to 60 inches: clay
H2 - 60 to 64 inches: weathered bedrock

Properties and qualities
Slope: 15 to 30 percent
Depth to restrictive feature: 40 to 80 inches to paralithic bedrock

Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.6 inches)

Interpretive groups
Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: CLAYEY (R015XD001CA)
Hydric soil rating: No

148—Haire clay loam, 2 to 9 percent slopes

Map Unit Setting
National map unit symbol: hdlk
Elevation: 20 to 2,400 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Haire and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Haire

Setting
Landform: Terraces, alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile
H1 - 0 to 22 inches: clay loam
H2 - 22 to 27 inches: sandy clay loam
H3 - 27 to 45 inches: clay
H4 - 45 to 60 inches: sandy clay

Properties and qualities
Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: CLAYPAN (R014XD089CA)
Hydric soil rating: No

Minor Components

Clear lake

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: Yes

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ATTACHMENT 3

LIST OF PLANT SPECIES OBSERVED

PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

Common Name	Scientific Name
Valley oak	*Quercus lobate*
Coast live oak	*Quercus agrifolia*
California bay laurel	*Umbellularia californica*
California buckeye	*Aesculus californica*
Bigleaf maple	*Acer macrophyllum*
Red willow	*salix laevigata*
Elm	*Ulmus sp*
Poison oak	*Toxicodendron diversilobum*
Common storksbill	*Erodium cicutarium*
Burr clover	*Medicago polymorpha*
Soft brome	*Bromus hordeaceus*
Common wild oat	*Avena fatua*
English plantain	*Plantago lanceolate*
Wall barley	*Hordeum murinum*
Mugwort	*Artemisia vulgaris*
Arroyo Willow	*Salix lasiolepis*
Himalayan blackberry	*Rubus armeniacus*
California blackberry	*Rubus ursinus*
Cow parsnip	*Heracleum maximum*
Wild lettuce	*Lactuca virosa*
Poison hemlock	*Conium maculatum*
Stinging nettle	*Urtica dioica*
Watercress	*Nasturtium officinale*
California black walnut	*Juglans californica*
Sow thistle	*Sonchus oleraceus*
Greater periwinkle	*Vinca major*
Acacia	*Acacia sp.*
Queen Anne's lace	*Daucus carota*
California Poppy	*Eschscholzia californica*
Coyote brush	*Baccharis pilularis*
Snowberry	*Symphoricarpos sp.*
Curly dock	*Rumex crispus*
Box elder	*Acer negundo*
White alder	*Alnus rhombifolia*
Tree of heaven	*Ailanthus altissima*
Sweet fennel	*Foeniculum vulgare*
Wild raddish	*Raphanus raphanistrum*
Fiddleneck sp.	*Amsinckia sp.*
Bristly ox tongue	*Helminthotheca echioides*
Canary grass	*Phalaris canariensis*
Slender wild oat	*Avena barbata*
Eucalyptus	*Eucalyptus sp.*
Little mallow (cheeseweed)	*Malva parviflora*