4.1 BIOLOGICAL RESOURCES

4.1.1 Introduction

This section describes biological resources in the project area, summarizes applicable laws and regulations, and identifies impacts to plant and animal species and habitats that could result from the proposed project. Potentially feasible mitigation measures to minimize or eliminate adverse impacts are also identified.

Evaluation of botanical and wildlife resources began with review of pertinent literature and databases, followed by field reconnaissance. Initial field surveys discovered the possibility for the proposed project to result in potentially significant impacts to botanical, wildlife, and sensitive habitats. As a result of these findings, the proposed project was modified by the applicant to reduce potential impacts. Additionally, to accommodate terrestrial migratory movement, several vineyard blocks were modified by reducing their size or by the re-alignment of the blocks in order to retain areas for wildlife movement.

4.1.2 Methodology

Field surveys for biological resources were conducted over a total ~~seven~~ ***of eight*** days in April, May, and July 2004, ~~and~~ November 2006***, and June 2008***. The surveys were conducted to identify vegetation/land cover types, areas with the potential to support special status plant and wildlife species, and sensitive habitats. The U.C. Davis Information Center for the Environment (ICE) Vegetation Map Catalog was used for vegetation mapping. During the field surveys, the ICE vegetation was verified using air photos. The ICE mapping effort for Napa County includes newly defined plant associations (Thorne et al. 2004), some of which are included in this document. Areas not surveyed included those with impenetrable chaparral and slopes greater than 30 percent, both which would not be affected by the proposed project. Special status plants, rare or unique wildlife and habitats were mapped in the field on aerial photographs. ***The focus of the vegetation/botanical surveys was to identify all taxa within the project site that were in the same genus/species as the target rare, threatened and endangered plants (RTE) queried from the California Natural Diversity (CNDDB) and the California Native Plant Society (CNPS) databases, and from previous botanical surveys conducted by other consultants. All areas proposed for development (i.e., vineyard blocks), as well as areas in between and immediately around them, were searched during the surveys.***

The ~~survey~~ timing of the botanical surveys conducted in April, May, and ~~again in~~ July of 2004 were appropriate based on blooming periods, a commonly used

factor for determining the appropriate survey time that allows easy and positive identification of target plant species in most cases. The most recent survey in June 2008 was conducted in dense and relatively steep chamise habitat for the sole purpose of confirming the presence of Napa Western flax (Hesperolinon serpentinum), which was reported to be observed by Kjeldsen in 2002 but was not confirmed in 2004.

Prior to conducting the field surveys, a target list of special-status species with potential to occur on or in the region surrounding the project site was compiled by performing database searches of the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Plants (CNPS 2006) and the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB 2006). The CNDDB is a statewide inventory managed by CDFG, which is continually updated with the locations and condition of the state's rare and declining species and habitats. Although the CNDDB and CNPS are reliable tools for site-specific information on sensitive biological resources, it should be noted that they contain only those records that have been submitted to CDFG or CNPS and are not always up to date. State lists of endangered, rare, and/or species of concern were also reviewed to determine species that may potentially occur in the project area.

4.1.3 Regulatory Framework

Federal Regulatory Issues

Federal Policies on Riparian Communities in California

Riparian communities have a variety of functions, including providing high-quality habitat for resident and migrant wildlife, streambank stabilization, and runoff water filtration. Throughout the U.S., riparian habitats have declined substantially in extent and quality compared with their historical distribution and condition. These declines have increased concerns about dependent plant and wildlife species, leading federal agencies to adopt policies to arrest further loss. U.S. Fish and Wildlife Service (USFWS) mitigation policy identifies California's riparian habitats as belonging to resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 7644, January 23, 1981).

Jurisdictional Waters of the United States (Including Wetlands)

Waters of the U.S. are defined as waters where use, degradation, or destruction could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are somehow connected to any of these waters or

their tributaries. Most wetland habitats meet the definition of waters of the U.S. The U.S. Army Corp of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Waters of the United States are subject to Section 404 of the Clean Water Act (CWA). Section 404 establishes a requirement to obtain a permit prior to any activity that involves any discharge or fill material in waters of the U.S.

Federal Endangered Species Act

The USFWS and NOAA's (National Oceanic and Atmospheric Administration) National Marine Fisheries Service (NMFS) oversee the federal Endangered Species Act (ESA). Sections 9 and 4(d) of the ESA prohibit the "take" of any fish or wildlife species listed as endangered or threatened, including the destruction of habitat that could hinder species recovery. The Section 9 take prohibition of the ESA applies only to wildlife and fish species. Section 9 also prohibits the removal, possession, damage, or destruction of any endangered plant from federal land. Section 9 further prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed for listing receive no protection under the ESA. The USFWS has jurisdiction over plants, wildlife, and resident fish; NMFS has jurisdiction over anadromous fish, marine fish, and marine mammals. Section 7 of the ESA mandates that all federal agencies consult with the USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. Section 10 of the ESA allows for take that is incidental to an otherwise lawful activity carried out by non-federal entities. An "incidental take" permit must be obtained from the USFWS or NMFS prior to any public or private action that is likely to result in take of any individual of an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of listed species that may occur by providing for the overall preservation of the affected species through specific mitigation measures.

Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act states that without a permit issued by the U.S. Department of the Interior, it is unlawful to pursue, hunt, take, capture, or kill any migratory bird.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act makes it illegal to import, export, take (includes molest or disturb), sell, purchase, or barter any bald eagle or golden eagle (*Aquila chrysaetos*) or part thereof.

Federal Regulations on Interstate Transport of the Sudden Oak Death Pathogen

Federal regulations restricting the interstate movement of regulated and restricted articles have been established to control the movement of *Phytophthora ramorum*, the organism that causes Sudden Oak Death (SOD), from infested counties in California. Regulated articles include nursery stock and soil and may only be moved interstate from a quarantined area if accompanied by a certificate. Restricted articles include bark chips, forest stock, or mulch from certain vegetation, and any other article that an inspector determines poses a risk of spreading *Phytophthora ramorum*. Restricted articles may only be moved interstate from a quarantined area by the U.S. Department of Agriculture for experimental or scientific purposes. State and federal regulations have recently been revised so that they are nearly identical with the following exceptions: 1) federal regulations apply to interstate transport, whereas state regulations apply to intrastate transport; and 2) federal regulations limit the transport of soil, as well as plant parts and products from hosts and potential carriers.

State and Local Regulations

Section 1602 of the California Fish and Game Code

Rivers, streams, or lakes in California are subject to regulation by CDFG, pursuant to Section 1602 of the California Fish and Game Code (CFGC). Activities regulated by CDFG include diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake. Section 1602 states that it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFG, or use any material from the streambed, without first notifying the CDFG of such activity. The CDFG defines a stream as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. Areas that support permanent or intermittent aquatic habitat on the project site may be subject to Section 1602 of the CFGC.

Porter-Cologne Water Quality Control Act

The Regional Water Quality Control Board (RWQCB) for the State of California implements water quality regulations under the federal CWA and the State Porter-Cologne Act. Agricultural activities are normally exempt from these regulations,

however, if these activities involve vegetation clearing, earthmoving and grading, on slopes greater than 5 percent, control measures to minimize or eliminate sediment runoff are required by Napa County Code.[1] Napa County enacted conservation regulations in 1991 (County Code, Chapter 18.108.070) to control erosion and protect water quality during earthmoving activities on slopes greater than 5 percent, which include vineyard development activities. These regulations seek to preserve natural resources and ensure the long-term viability of county agriculture by protecting lands from excessive soil loss, which leads to loss of economic productivity and could degrade local water quality and quantity. By County Code, these control measures must be incorporated into a site-specific design, such as an Erosion Control Plan, and approved by the County Planning Department. The proposed project includes implementation of the Erosion Control Plan (#02-454-ECPA) and subsequent vineyard maintenance and operations.

California Endangered Species Act

The state of California implemented its own Endangered Species Act (CESA) in 1984. The state act prohibits the take of state-listed endangered and threatened species; however, habitat destruction is not included in the state's definition of take. Fish and Game Code Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFG administers the act and authorizes take through CFGC Section 2081 agreements, except for designated "fully protected species". A fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock (CFGC Sections 3511, 4700, 5050 and 5515).

Regarding listed rare and endangered plant species, CESA defers to the California Native Plant Protection Act (NPPA) of 1977, which prohibits importing of rare and endangered plants into California, and the taking and selling of rare and endangered plants. The CESA includes an additional listing category for threatened plants which are not regulated under the NPPA. In this case, plants listed as rare or endangered under the NPPA are not protected under CESA but can be protected under CEQA. In addition, plants that are not state-listed but meet the state standards for listing, are also protected under CEQA (Guidelines, Section 15380) (see 6.4.1). In practice, this is generally interpreted to mean that all species on lists 1B and 2 of the CNPS Inventory (Tibor 2001) potentially qualify for protection under CEQA, and some species on lists 3 and 4 of the CNPS Inventory may qualify for protection under CEQA. List 3 includes

[1] Chapter 18.108.070 - No otherwise permitted agricultural earthmoving activity, grading, or improvement, shall commence on slopes over five percent until an erosion control plan which complies with the requirements on Section 18.108.080 has been submitted to and approved by Napa County.

plants for which more information is needed on taxonomy or distribution. Some of these are rare and endangered enough to qualify for protection under CEQA. List 4 includes plants of limited distribution that may qualify for protection if their abundance and distribution characteristics are found to meet the state standards for listing.

Section 3503-3503.5 of the California Fish and Game Code

Section 3503 of the CFGC prohibits destruction of the nests or eggs of most native resident and migratory bird species. Section 3503.5 of the CFGC specifically prohibits the taking of raptors or destruction of their nests or eggs.

Oak Woodland Conservation Act ***/SB 1334***

In 2005, State Senate Bill 1334 (SB 1334) was passed, mandating counties to require feasible and proportional habitat mitigation for impacts to oak woodlands under the California Environmental Quality Act (CEQA) process. Under Public Resources Code (PRC) Section 21083.4(b), a county is required to determine whether projects "may result in a conversion of oak woodlands that will have a significant effect on the environment" and to impose one or more mitigation alternatives.

The mitigation measures that must be considered for the loss of oak woodlands under this section include: conservation of oak woodland through the use of conservation easements, contributing funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements, re-planting trees or restoration of former oak woodlands, or implementation of other mitigation actions as outlined or developed by a county. Section 21083.4(d)(3) operates to exempt "conversion of oak woodlands on agricultural land that includes land that is used to produce or process plant and animal products for commercial purposes" from the specific provisions of section 21083.4.

~~Section 21083.4 was recently added to the California Public Resources Code. This section requires counties to review potential impacts to oak woodlands as part of their CEQA process, and outlines specific options for mitigation should the project have potential significant impacts. The section, however, exempts agricultural lands which "produce or process plant and animal products for commercial purposes".~~ An evaluation of potential impacts to oak woodlands is provided in Section 4.1.5 (Potential Impacts and Mitigation Measures).

Napa County General Plan Conservation and Open Space Element [2]

Napa County's General Plan set forth goals and policies in order to protect and enhance the natural resources of the county. The goals are general in nature and the policies are specific and obtainable. The Conservation and Open Space Element is designed to protect wildlife, and wildlife habitat, fisheries, forest products, rangeland, agricultural lands, watersheds, historic and archaeological resources, scenic values and recreation.

Goals and policies contained in the Conservation and Open Space Element of the General Plan pertaining to wetlands and biological resources in the Project area include the following:

I. Open Space for Preservation of Natural Resources

Conservation Policy I.A.6 (a): All Fishery and Wildlife Habitat:

1) Residential, commercial, industrial, agricultural and water development projects should include management plans for fishery, wildlife and recreation purposes, including provisions to:

a) employ supplemental planting and maintenance of grasses, shrubs and trees of similar quality and quantity to provide adequate vegetation cover to keep the watersheds, especially stream side, in good condition and to provide shelter and food for wildlife;

b) provide protection and enhancement for wildlife habitat; and

c) provide replacement habitat of like quantity and quality.

Conservation Policy I.A.6 (b): Riparian Woodland and Wildlife Habitat

2. To offset additional losses of scarce riparian woodlands, due to conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved wildlife habitat improvement and acquisition fund.

II. Open Space for Managed Production of Resources

Conservation Policy II.C.3: Agricultural Land:

a) Limit growth to minimize urban development on prime soils and reduce conflict with the agricultural operations and economy.

[2] Policies presented here may have been altered with adoption of an updated General Plan for Napa County in June 2008. Please see Appendix F for an examination of the project in light of relevant policies from the updated Plan now in effect.

d) Protect trees and shrubs for wildlife habitat and aesthetic purposes and encourage alternate uses, such as wildlife and recreation if feasible without undue environmental damage when grazing is phased out.

e) Require that 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 adapted vegetation shall be required.

f) Minimize pesticide and herbicide use and encourage research and use on integrated pest control methods such as cultural practices, biological control, host resistance and other factors.

Additionally, the management plans should provide the following essentials for fish and wildlife resources: sufficient oxygen in the water; adequate amounts of proper food; adequate amounts of feeding and nesting habitat; and proper temperature, chemical content, salt content and velocity of water. This may be accomplished through the use of best management practices and designing integrated pest management into the plan for the project.

Prior to approval of the proposed project, County decision makers must consider whether the proposed project is consistent with the County's General Plan; if the project is not consistent, it cannot be approved. In considering whether to find the project consistent with the General Plan, County decision makers will weigh all relevant policies, and determine whether the project is, on balance, consistent with the entirety of the plan.

State and Local Regulations on the Transport of the SOD Pathogen

The California Department of Food and Agriculture (CDFA) Plant Quarantine Manual, Section 3700, describes state restrictions that apply to the movement of plants, plant parts, and plant products (e.g., bark chips, mulch, firewood, and wreaths) of species that are hosts or possible carriers of the pest that causes oak mortality disease. The regulated area includes the entire counties of: Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma. SOD has been found within all thirteen of these counties. Plants and plant parts of hosts and possible carriers can be transported freely within and between these infested counties but cannot be transported to non-infested counties or, under federal regulations, to non-infested states.

Within Napa County, SOD regulations are under the jurisdiction of the County Agricultural Commissioner's office. No special regulations, beyond those of the State, are imposed by Napa County. The Napa County Agricultural Commissioner's office requests voluntary assistance from all sectors in combating the spread of the SOD pest within Napa County.

4.1.4 Existing Conditions

Affected Environment

The dominant plant communities occurring on the project site include non-native Annual and Native Perennial Grassland, Blue and Coast Live Oak Woodland, Foothill Pine/California Bay/Leather Oak, Chaparral, and Chamise (Holland 1986). Less dominant plant communities also exist on the project site and are described in the following sections. The project area is currently grazed by cattle and as such, the properties have grazing-associated effects, such as large patches of noxious weed infestations (i.e., star thistle) and erosive soil conditions; however, the site also supports some sensitive species and habitats, including native perennial grasses and serpentine soil plant communities. A discussion of these sensitive resources is presented below.

Vegetation Communities

Natural vegetation types were assigned primarily according to the system of Holland (1986) and types associated with the ICE Napa County Mapping Project (Thorne et al. 2004). Plant nomenclature follows *The Jepson Manual* (Hickman 1993). A section on rocky outcrops is also included to describe this unique habitat that occurs in a number of other vegetation communities.

The predominant vegetation community potentially affected by the proposed project is oak woodland. These woodlands were mapped as Blue Oak, Coast Live Oak, and Coast Live Oak/Blue Oak Associations. Additionally, six other vegetation communities were mapped within or adjacent to the proposed project areas: California Annual Grassland, Foothill Pine/California Bay/Leather Oak, Chamise, Douglas Fir, Serpentine Grassland Super Alliance, and Native Perennial Grassland (see Table 4.1-1 for acreages of these communities that would either be removed or undisturbed by the proposed project). Figure 4.1-1 depicts the vegetation communities in the project area as well other notable natural resources.

Coast Live Oak/Blue Oak Association

Coast live oak (*Quercus agrifolia*) and blue oak (*Quercus douglasii*) are typically the most abundant tree layer species growing in relatively open stands. In more moist habitat

(e.g. shaded ravines or hillsides), the tree canopy is often more dense, and coast live oak is relatively more abundant than blue oak. Conversely, in drier habitat, blue oak is more abundant in the tree layer. Foothill pine (*Pinus sabiniana*) is ubiquitous in a distinct tree layer that overtops the oaks. The shrub layer in drier areas contains scattered bush monkeyflower (*Mimulus aurantiacus*) and scattered California buckeye (*Aesculus californica*) trees, while the shrub and tree layer in the more moist stands includes madrone (*Arbutus menziesii*), black oak (*Quercus kelloggii*), toyon (*Heteromeles arbutifolia*), snowberry (*Symphoricarpos alba*), California bay (*Umbellularia californica*), and chaparral honeysuckle (*Lonicera interruptus*).

[INSERT Figure 4.1-1 Biological Resources] 11x17

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Table 4.1-1
Plant Communities that Would be Removed by the Project

PLANT COMMUNITY	ACRES EXISTING ON THE SITE	ACRES NOT DISTURBED	ACRES TO BE REMOVED
Blue oak	159.68	113.44	46.24
Coast live oak	27.82	11.06	16.76
Coast live oak/blue oak	228.17	170.31	57.86
Oak Woodland Total	**415.67**	**294.81**	**120.86**
California Annual Grassland Alliance	46.85	16.99	29.86
Douglas Fir Alliance	24.51	24.51	0.0
Chamise Alliance	78.99	78.99	0.0
Foothill Pine/California Bay/Leather Oak Alliance	99.29	90.37	8.92
Leather Oak/California Bay/Rhamnus spp Alliance	1.71	1.71	0.0
Serpentine Grassland Super Alliance	8.47	7.10	1.37
Native Perennial Grassland Alliance	0.85	0.59	0.26
TOTAL	**676.34***	**515.07**	**161.27**

Source: EDAW 2005

* The remaining 2.1 acres of the project site is comprised of rock outcrop (1.12 ac), water (0.68 ac), and developed areas (0.30 ac).

The herb layer under more open canopies is typically dense with introduced annual grasses and scattered native plants such as purple needlegrass (*Nasella pulchra*), yellow mariposa lily (*Calochortus luteus*), elegant brodiaea (*Brodiaea elegans*), and bluedicks (*Dichelostemma capitatum*). The herb layer under denser tree canopies has fewer introduced annual grass species and generally has a greater diversity of native herbaceous species (without too much shade). Most of these stands occur on the west side of the properties on slopes overlooking Napa River valley area. A few stands are mapped on the east-end of the properties and have many intergrading chaparral shrub species including chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus berberdifolia*) and coyote brush (*Baccharis pilularis*).

Much of the proposed project overlaps the coast live oak/blue oak vegetation type. Nineteen vineyard blocks would remove 57.86 acres of Coast Live Oak/ Blue Oak Association. The tree stands with slopes less than 30 percent gradient are often more open-growing and tend to have more blue oak in the tree canopy. These stands are similar in many respects to the blue oak vegetation type described below. A few large trees with cavities were observed; however, no evidence of bats or cavity nesters occupying these trees was found.

Blue Oak Alliance

Blue oak grows in open to dense stands, often growing on steep slopes with shallow soils that typically support a thin grassy herb layer and very few shrub layer species. Blue oak stands with higher tree densities and dense canopy cover typically have a few foothill pine, California buckeye, and coast live oak and grow on relatively deeper soils that support a very dense herb layer of tall annual grasses and scattered shrubs. Some of the largest blue oak stands have a relatively dense tree layer and occur on slopes with less than 30 percent gradient. The largest blue oak stand on the properties overlaps the majority of proposed Vineyard Block 34. The herb layer of the blue oak stands have a dominate assemblage of non-native grass species and is described in more detail in the California Annual Grassland Alliance section. The shrub layer species in the blue oak stands includes poison oak (*Toxicodendron diversilobum*) and manzanita (*Arctostaphylos manzanita*). A total of 46.24 acres of the Blue Oak Alliance would be removed by the proposed project.

Coast Live Oak Alliance

This vegetation type is characterized by coast live oak as the dominant tree layer species followed by black oak, and in lesser abundance madrone and blue oak. Understory vegetation layers are similar to the more mesic stands of the Coast Live Oak/Blue Oak Association. Additionally, the coast live oak vegetation type has scattered rock outcrops in the understory. This vegetation type was mapped only along the ridge top at the west end of the properties and overlaps the proposed project specifically Vineyard Blocks 20, 21, 22, 23 and 24 and would remove 16.76 acres of coast live oak.

Foothill Pine/California Bay/Leather Oak Alliance

This vegetation type was not mapped accurately by ICE on the properties; instead it was mapped as Foothill Pine/Whiteleaf Manzanita/Leather Oak Alliance, primarily along the northeast and east portions of the properties overlooking Lake Hennessey. Whiteleaf manzanita, however, was not located on the project area, and the correct vegetation type, the Foothill Pine/California Bay/Leather Oak Alliance, was mapped on the ground during the site visits.

This vegetation type is commonly found on thin to deep soils, rocky areas, and variable topography allowing a mixture of species to grow together. Foothill pine forms the ubiquitous tallest vegetation layer typically with widely spaced trees. Leather oak (*Quercus durata*), chamise, birch-leaf mountain mahogany (*Cercocarpus betuloides*), California bay, toyon, and occasional common manzanita form an open to more often dense shrub layer. Chamise is clearly the most abundant shrub layer species in many of the drier portions of the mapped polygons. The herbaceous species growing in openings in the

shrub layer and on rock outcrops are often native perennial grasses that include California fescue (*Festuca californica*), bulbous oniongrass (*Melica bulbosa*), rock melic (*Melica imperfecta*), blue wildrye (*Elymus glaucus*), and squirreltail (*Elymus elymoides*). Native perennial forbs that occur in these openings include California lomatium (*Lomatium californicum*), live-forever (*Dudleya cymosa*), and a fern called cliffbrake (*Pallaea andromedifolia*). This vegetation type occurs in Vineyard Blocks 42, 43, 44 and part of 41, which would account for the removal of 8.92 acres of this mixed Alliance. Over 90 acres of this Alliance would not be affected by the proposed project.

California Annual Grassland Alliance

The California annual grassland vegetation type is pervasive on the west and southwest portions (facing Napa alley) of the properties. This vegetation type is mapped as a few small to large polygons in ICE but is widespread in the herbaceous understory layer of the blue oak and coast live oak vegetation types. The land use on the properties has been predominately cattle production and has been planted with annual ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum murinum* ssp. *gussoneanum*) and Harding grass (*Phalaris aquatica*) for forage and erosion control. Other non-native grass species include introduced annual bromes (*Bromus hordeaceous, B. madritensis, B. diandrus, B. sterilis*) and annual fescues (*Vulpia microstachys and V. myuros*), some also commonly planted as forage. Non-native forbs include vetches (*Vicia americana and V. villosa*). Native species present in this type include purple needlegrass, blue dicks, California brome (*Bromus carinatus*), golden globe lily (*Calochortus amabilis*), elegant brodiaea, Ithuriel's spear (*Triteleia laxa*), and yellow mariposa lily (*Calochortus luteus*).

The low gradient slopes adjacent to the Silverado Trail include the larger polygons (Figure 4.1-1) of the annual grassland vegetation type that occur in the proposed project area, specifically among Vineyard Blocks 12, 13 and 14. The proposed project would remove 29.86 acres of this predominately non-native Alliance, leaving 16.99 acres undisturbed by the project.

Native Perennial Grassland Alliance

Native grassland typically occurs in areas where there is reduced competition with introduced pasture grasses (non-natives) and in patches or outcrops with thin, rocky soils. Purple needlegrass is a common, low-cover component of this alliance, and is found in the herb layer of oak woodland and rock outcrop habitats in such small quantities that mapping these proved to be difficult. Foothill needlegrass (*Nassella lepida*) is also present in similar habitats but in smaller quantities. Other species of native bunchgrasses that occur in the native grassland areas are California melic (*Melica californica*), and prairie junegrass (*Koeleria macrantha*). Native forbs in these areas include soap root (*Chlorogalum pomeridianum*), California fuschia (*Epilobium canum*), popcorn

flower (*Plagiobothrys sp.*), Ithureal's spear, and California poppy (*Eschscholzia sp.*). Non-native grasses grow between the clumps of the native grass in the native grassland.

There was only one area within the areas surveyed where purple needlegrass was observed to form a large, continuous stand that could be defined as native perennial grassland. This grassland lies partially within and east of Vineyard Block 14 along Silverado Trail. Native perennial grasslands are considered sensitive habitats by CDFG. Vineyard block 14 would remove 0.26 acre of native perennial grassland, while 0.59 acre would not be directly affected by the proposed project.

Serpentine Grassland Super Alliance

Serpentine Grassland Super Alliance, as described by Thorne, et al. (2004), consists of low-growing herbaceous vegetation on serpentine-derived soils and are the most unique (and therefore highest constraint) vegetation type on the properties. The soils are thin and rocky, and support very few shrub and tree species. The upper slopes of the serpentine "grassland" have several shallow, ephemeral drainages that feed the larger, possibly perennial, downslope drainage that drains to Lake Hennessey to the east. The most abundant herb layer species are California plaintain (*Plantago erecta*), common linanthus (*Linanthus parviflorus*), *Madia* sp., Hartweg's dollslily (*Odontostomum hartwegii*) and Marin dwarf flax (*Hesperolinon congestum*). The largest mapped area representing this vegetation type occurs at the southeast portion of the property. Two previously proposed Vineyard Blocks (50 and 51), were eliminated from the proposed vineyard site plan due to the potential impacts to serpentine grassland and other sensitive plant communities. However, proposed Vineyard Block 52 would result in the loss of approximately 1.37 acres of this grassland community. Approximately seven acres would be left undisturbed in other areas of the project site.

Douglas-fir Alliance

This vegetation type is restricted to the upper portions of steep slopes overlooking Lake Hennessey and is characterized by young, tall Douglas-fir (*Pseudotsuga menziesii*), madrone, coast live oak, black oak, California bay, and foothill pine, all which form a diverse multi-layered tree canopy. Shrub and herb layer species include toyon, poison oak, coyote brush, California fescue (*Festuca californica*), Pacific sanicle (*Sanicula crassicaule*), and California polypody (*Polypodium californicum*). Because of steep slopes associated with this vegetation type these areas are not part of the proposed project.

Chamise Alliance

The Chamise Alliance as mapped by ICE and verified by ground-truthing occurs predominantly on the east end of the properties. This vegetation community grows most often on slopes with greater than 30 percent gradient. The project would not

involve development of slopes with gradients greater than 30 percent. Within this habitat type, chamise is the dominant shrub-layer species, although scrub oak is more abundant than chamise in some small patches. Additional species are present in low numbers, including foothill pine, California bay, *Ceanothus* sp. [including holly leaved ceanothus (*Ceanothus purpureus*) - CNPS 1B species], coyote brush, and California buckeye. Chamise is somewhat ubiquitous in shrub dominated vegetation types on the property, but is often overtopped by larger woody species where it becomes shaded out.

The herb layer in this community is often low and sparse due to soils that are often rocky and thin and quickly dry out during the growing season. Some of the more abundant herb layer species include poverty brome, annual fescue and ripgut brome. Other herb layer species include blue dicks, Bolander's bedstraw (*Galium bolanderi*), cliff brake (*Pellaea mucronata*), elegant brodiaea, and deerweed (*Lotus scoparius*). This community type would not be directly affected by the proposed project, as it is found in areas with slopes greater than 30 percent, which are areas not proposed for vineyard development under the proposed project (Figure 4.1-1).

Rock Outcrops

Rock outcrops are not a vegetation type but occur in several vegetation types across the property. The outcrops on ridge tops and upper slopes overlooking Napa Valley tend to be shaded and have highly fractured bedrock with many large boulders or boulder piles. California lomatium, branching phacelia (*Phacelia ramosissima*), Dutchman's pipe (*Aristolochia californica*), California buckeye, bush monkeyflower, marah (*Marah fabacea*) and cliff-brake are common species on these outcrops. Relatively low relief rock outcrops in chaparral or open grassy areas with very thin soils support purple needlegrass, Lemmon's needlegrass (*Achnatherum lemmonii*), live-forever, coyote mint (*Monardella villosa* ssp. *villosa*), goldback fern (*Pentagramma triangularis*), soap plant, elegant brodeia, rock melic, and bulbous oniongrass. Serpentinite outcrops plants included Douglas' sandwort (*Minuartia douglasii*), Ithuriel's sprear, sickle leaf onion (*Allium falcifolium*), foothill plantain, Kellogg's yampah (*Perideridia kelloggii*), soap plant and California dwarf flax (*Hesperolinon californica*). The proposed project and specifically Vineyard Blocks 42 and 43 have a number of low-relief rock outcrops, but the other vineyard blocks have few, if any, outcrops. Additionally, most outcrops occur on slopes with greater than 30 percent gradient and are in areas that would not be disturbed by the project.

Wildlife

Wildlife species in the project area are generally typical for the habitat components at the site. Oak forest and grassland plant communities provide habitat for a diversity of wildlife, including reptiles, amphibians, birds, and mammals. Predators such as hawks,

owls, foxes, and coyotes would be expected to hide in the oak forests and forage in the grasslands.

The oak habitat and adjacent grasslands on the site are valuable for a variety of common birds, including chestnut-backed chickadee (*Poecile rufescens*), western bluebird (*Sialia mexicana*), oak titmouse (*Baeolophus inorantus*), orange-crowned warbler (*Vermivora celata*), and western scrub (*Aphelocoma californica*) and Stellar's jays (*Cyanocitta stelleri*); all of which were observed during surveys. Both red-shouldered hawk (*Buteo lineatus*) and sharp-shinned (*Accipiter striatus*) hawk were also observed on-site and most likely forage in the oak forest and open grassland. The red-shouldered hawk is not a special status species; however, the sharp-shinned hawk is listed as a California Species of Special Concern (SSC) by the CDFG; all raptors are protected by CFGC, which specifically protects raptors. During several surveys, an immature bald eagle (*Haliaeetus leucocephalus*), which is a federally threatened and state endangered species, was observed on the western portion of the properties indicating the area is used as juvenile/immature dispersal habitat.

Other species of wildlife observed (either directly or by indirect evidence [i.e., tracks, scat etc.]) on the project site include black-tailed deer (*Odocoileus hemionus columbianus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), California ground squirrel (*Spermophilous beecheyi*), California slender salamander (*Batrachoseps attenuatus*), western fence lizard (*Sceloporus occidentalis*), California alligator lizard (*Elgaria multicarinata multicarinata*), northern pacific rattlesnake (*Crotalis viridis oreganus*), common raven (*Corvus corvax*), California towhee (*Pipilo crissalis*), wrentit (*Chamaea fasciata*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), ruby-crowned kinglet (*Regulus calendula*), lesser goldfinch (*Carduelis psaltria*), Nuttall's woodpecker (*Picoides nuttallii*), black phoebe (*Sayornis nigricans*), ash-throated flycatcher (*Myiarchus cinerascens*), tree swallow (*Tachycineta bicolor*), and violet-green swallow (*Tachycineta thalassina*).

Sensitive Habitats

Sensitive habitat types include those that are of special concern to CDFG, or that are afforded specific consideration through CEQA, Section 1602 of the CFGC, and Section 404 of CWA. These generally include watercourses, large rock outcrops, native grasslands, and oak forests. Several of vegetation associations on the project site are considered sensitive habitats by CDFG, including native perennial and serpentine grassland, and riparian and woodland.

Native perennial grassland ***consisting of a single species,*** ~~is comprised generally of a variety of grasses, in this case however, only~~ purple needlegrass, was located and mapped within the project area. ***The*** area ~~where purple needlegrass was observed to~~ form***s*** a large, continuous stand ***and*** ~~that could be defined as native perennial grassland~~ lies partially within Vineyard Block 14, along Silverado Trail (Figure 4.1-1). The project would result in the removal of approximately 0.26 acre of this grassland, while 0.59 acre would be avoided.

Serpentine Grassland Super Alliance consists of low-growing herbaceous vegetation on serpentine-derived soils and is the most unique vegetation type on the properties. The largest mapped area representing this vegetation type occurs at the southeast end of the properties. The soils are thin and rocky, and support very few shrub and tree species. The upper slopes of the serpentine "grassland" have several shallow, ephemeral drainages that feed the larger, possibly perennial, downslope drainage. The most abundant herb layer species in this community are California plaintain, common linanthus, *Madia* sp., Hartweg's dollslily, and Marin dwarf flax. The development of block 52 would result in a loss of 1.37 acres of serpentine grassland, while 7.10 acres would be avoided.

The large drainage that feeds into Lake Hennessy passes through areas of serpentine soils (Figure 4.1-1), and supports intermittent stands of woody riparian vegetation, including Brewer's willow (*Salix brewer*i). Riparian habitats in general and serpentine riparian habitats in particular, are considered sensitive habitats by CDFG. The proposed project includes 65-foot setbacks on streams, as streams are defined by the County.[3]

Special Status Species

Special status species are defined as follows:

- Species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 CFR 17.12; various notices in the Federal Register for proposed species);
- Species that are listed, or proposed for listing by the state of California as threatened or endangered under the California Endangered Species Act (California Administrative Code, Title 14, Section 670.5);

[3] "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 United State Geological Survey 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 and contains hydrophilic vegetation, riparian vegetation or woody vegetation including tree species greater than ten feet in height, and 3) those watercourses listed in Resolution No. 94-19 and incorporated herein by reference.

- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California and elsewhere (Skinner and Pavlik 1994);
- Species that meet the definition of rare or endangered under the California Environmental Quality Act (1970); and
- CDFG Species of Special Concern (SSC) status applies to animals not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.

Special status species with the potential to occur in the project area may be found in Table 4.1-2 as follows:

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
Plants						
Franciscan onion	*Allium peninsulare* var. *franciscanum*	--	--	1B	Cismontane woodland, valley and foothill grassland/ clay, often serpentinite Bloom: May-Jun	High: suitable habit exists on the project site
Sonoma alopecurus	*Alopecurus aequalis* var. *sonomensis*	E	--	1B	Marshes and swamps (freshwater), riparian scrub Bloom: May-Jul	Low: suitable habitat is limited; not likely to occur
Napa false indigo	*Amorpha californica* var. *napensis*	--	--	1B	Broadleafed upland forest (openings), chaparral, cismontane woodland Bloom: Apr-Jul	High: suitable habit exists on the project site
Sonoma manzanita	*Arctostaphylos canescens* ssp. *sonomensis*	--	--	1B	Chaparral, lower montane coniferous forest / sometimes serpentinite Bloom: Jan-Apr (Jun)	Medium: limited habit exists on the project site
Rincon manzanita	*Arctostaphylos stanfordiana* ssp. *decumbens*	--	--	1B	Chaparral (rhyolitic), cismontane woodland Bloom: Feb-Apr	Low: habitat on the project site is not likely to support species
Suisun marsh aster	*Aster lentus*	--	--	1B	Marshes and swamps (brackish and freshwater) Bloom: May-Nov	Low: habitat on the project site is not likely to support species
Clara Hunt's milk-vetch	*Astragalus clarianus*	E	T	1B	Open grassy areas and thin clay soil Bloom: Mar-May	Low: habitat on the project site is not likely to support species
alkali milkvetch	*Astragalus tener* var *tener*	--	--	1B	Playas, valley and foothill grassland (adobe clay), vernal pools/alkaline Bloom: Mar-Jun	Low: habitat on the project site is not likely to support species
San Joaquin spearscale	*Atriplex joaquiniana*	--	--	1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland / alkaline Bloom: Apr-Oct	Low: habitat on the project site is not likely to support species
big-scale balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	--	--	1B	Chaparral, cismontane woodland, valley and foothill grassland / sometimes serpentinite Bloom: Mar-Jun	High: suitable habit exists on the project site

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
Sonoma sunshine	*Blennosperma bakeri*	--	--	1B	Valley and foothill grassland (mesic), Vernal pools Bloom: Mar-May	Low: habitat on the project site is not likely to support species
Narrow-anthered California brodiaea	*Brodiaea californica* var. *leptandra*	--	--	1B	Open forest, chaparral, often serpentine Bloom: May-Jul	Low: habitat on the project site is not likely to support species
white sedge	*Carex albida*	--	--	1B	Bogs and fens, marshes and swamps (freshwater) Bloom: May-Jul	Low: habitat on the project site is not likely to support species
Rincon Ridge ceanothus	*Ceanothus confusus*	--	--	1B	Dry shrubby slopes Bloom: Feb-Apr	None: No suitable habitat on project site
Calistoga ceanothus	*Ceanothus divergens*	--	--	1B	Dry shrub-covered rocky, volcanic slopes Bloom: Feb-Mar	None: No suitable habitat on project site
holly-leaved ceanothus	*Ceanothus purpureus*	--	--	1B	Dry shrub-covered rocky, volcanic slopes Bloom: Feb-Jun	Confirmed: species was observed on project site
Sonoma ceanothus	*Ceanothus sonomensis*	--	--	1B	Chaparral, in sand, serpentine, volcanic soils Bloom: Feb-Apr	None: No suitable habitat on project site
serpentine cryptantha	*Cryptantha clevelandii* var. *dissita*	--	--	1B	Chaparral (serpentinite) Bloom: Apr-Jun	Low: habitat on the project site is not likely to support species
dwarf downingia	*Downingia pusilla*	--	--	2	Vernal pools, roadside ditches Bloom: Mar-May	None: No suitable habitat on project site
narrow-leaved daisy	*Erigeron angustatus*	--	--	1B	Chaparral (serpentinite or volcanic) Bloom: May-Sep	High: suitable habit exists on the project site
streamside daisy	*Erigeron biolettii*	--	--	3	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest/rocky, mesic Bloom: Jun-Oct	None: No suitable habitat on project site
Tiburon buckwheat	*Eriogonum luteolum* var. *caninum*	--	--	3	Chaparral, coastal prairie, Valley and foothill grassland/serpentinite Bloom: Jun-Sep	Medium: limited habit exists on the project site

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
Loch Lomond button-celery	*Eryngium constancei*	E	E	1B	Vernal Pools Bloom: Apr-Jun	None: No suitable habitat on project site
two-carpellate western flax	*Hesperolinon bicarpellatum*	--	--	1B	Chaparral (serpentinite) Bloom: May-Jul	High: suitable habit exists on the project site
Brewer's western flax	*Hesperlinon breweri*	--	--	1B	Chaparral, grassland, sometimes serpentine Bloom: May-Jul	Low: habitat on the project site is not likely to support species
Napa western flax[2]	*Hesperolinon serpentinum*	--	--	1B	Chaparral (serpentinite) Bloom: May-Jul	High: suitable habit ***exists*** ~~previously detected~~ on the project site
Northern California black walnut	*Juglans hindsii*	--	--	1B	Canyons, valleys Bloom: Apr-May	Low: habitat on the project site is not likely to support species
Contra Costa goldfields	*Lasthenia conjugens*	E	--	1B	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/mesic Bloom: Mar-Jun	Low: habitat on the project site is not likely to support species
delta tule pea	*Lathyrus jepsonii* var. *jepsonii*	--	--	1B	Marshes and swamps (freshwater and brackish) Bloom: May-Jul (Sep)	None: No suitable habitat on project site
Colusa layia	*Layia serpentrionalis*	--	--	1B	Chaparral, cismontane woodland, valley and foothill grassland/sandy, serpentinite Bloom: Apr-May	High: suitable habit exists on the project site
Legenere	*Legenere limosa*	--	--	1B	Vernal pools Bloom: Apr-Jun	None: No suitable habitat on project site
Jepson's leptosiphon	*Leptosiphon jepsonii* (syn. *Linanthus jepsonii)*	--	--	1B	Chaparral, oak forest, usually volcanic Bloom: Apr-May	Medium: limited habitat exists on the project site
Mason's lilaeopsis	*Lilaeopsis masonii*	--	R	1B	Intertidal marshes, streambanks Bloom: Apr-Nov	None: No suitable habitat on project site
Sebastopol meadowfoam	*Limnanthes vinculans*	E	E	1B	Meadows and seep, valley and foothill grassland, vernal pools / vernally mesic Bloom: Apr-May	Low: habitat on the project site is not likely to support species

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
Cobb Mountain lupine	*Lupinus sericatus*	--	--	1B	Open wooded slopes Bloom: Mar-Jun	Low: habitat on the project site is not likely to support species
Mt Diablo cottonweed	*Micropus amphibolus*	--	--	3	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland Bloom: Mar-May	Medium: limited habit exists on the project site
robust monardella (robust coyote mint)	*Monardella villosa* ssp. *Globosa*	--	--	1B	Open areas Bloom: Jun-Jul	Low: habitat on the project site is not likely to support species
Baker's navarretia	*Navarretia leucocephala* ssp. *Bakeri*	--	--	1B	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools Bloom: Apr-Jul	Low: habitat on the project site is not likely to support species
few-flowered navarretia	*Navarretia leucocephala* ssp. *Pauciflora*	E	T	1B	Vernal pools (volcanic ash flow) Bloom: May-Jun	None: No suitable habitat on project site
many-flowered navarretia	*Navarretia leucocephala* ssp. *Plieantha*	E	E	1B	Vernal pools (volcanic ash flow) Bloom: May-Jun	None: No suitable habitat on project site
Marin County navarretia	*Navarretia rosulata*	--	--	1B	Closed-cone coniferous forest, chaparral/serpentinite, rocky Bloom: May-Jul	High: suitable habit exists on the project site
Sonoma beardtongue	*Penstemon newberryi* var. *sonomensis*	--	--	--	Outcrops, talus Bloom: Apr-Aug	Low: habitat on the project site is not likely to support species
Calistoga popcorn-flower	*Plagiobothrys strictus*	E	T	1B	Moist sites near hot springs Bloom: Apr-Aug	None: No suitable habitat on project site
Napa blue grass	*Poa napensis*	E	E	1B	Low, sterile ground near hot springs Bloom: May-Aug	None: No suitable habitat on project site
Marin checkerbloom	*Sidalcea hickmanii* ssp. *Viridis*	--	--	1B	Dry ridges near coast Bloom: May-Aug	None: No suitable habitat on project site
marsh checkerbloom	*Sidalcea oregana* ssp. *Hydrophila*	--	--	1B	Wet soil of streambanks, meadows Bloom: May-Aug	None: No suitable habitat on project site
Kenwood Marsh checkerbloom	*Sidalcea oregana* ssp. *vallida*	E	E	1B	Marshes and swamps (freshwater) Bloom: Jun-Sep	None: No suitable habitat on project site

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
green jewel-flower	*Streptanthus breweri* var. *hesperidis*	--	--	1B	Chaparral (openings), cismontane woodland / serpentinite, rocky Bloom: May-Jul	High: suitable habit exists on the project site
showy Indian clover	*Trifolium amoenum*	E	--	1B	Moist, heavy soils, disturbed areas Bloom: Apr-Jun	None: Presumed extinct; no suitable habitat on project site
saline clover	*Trifolium depauperatum* var. *hydrophilum*	--	--	1B	Salt marshes, grasslands, coastal woodlands, openings, wet meadows, ditches, roadsides, disturbed places, open alkaline or spring-moist heavy soils Bloom: Apr-Jun	Low: habitat on the project site is not likely to support species
oval-leaved viburnum	*Viburnum ellipticum*	--	--	2	Chaparral, yellow-pine forest, generally on north-facing slopes Bloom:	Low: habitat on the project site is not likely to support species
Invertebrates						
valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	--	--	Central Valley, requires elderberry shrubs	None: project site is outside the species range
vernal pool fairy shrimp	*Branchinecta lynchi*	T	--	--	Vernal pools and seasonal depressions in Central Valley, central and south Coast Mtns.	None: No suitable habitat on project site
California freshwater shrimp	*Syncaris pacifica*	E	E	--	Low elevation, low gradient streams with densely-vegetated margins and moderately heavy riparian cover	None: No suitable habitat on project site
Reptiles						
western pond turtle	*Clemmys marmorata*	--	SSC	--	Associated with permanent or semi-permanent water	Low: habitat on the project site is not likely to support species
Amphibians						
California red-legged frog	*Rana aurora draytonii*	T	SSC	--	Lowlands and foothills with permanent sources of deep water with dense emergent vegetation; disperse through upland habitat	Low: habitat on the project site is not likely to support species
foothill yellow-legged frog	*Rana boylii*	--	SSC	--	Variety of habitats with shallow, flowing water, small to moderate-sized streams with some cobble-sized substrate and sparse riparian cover	Low: habitat on the project site is not likely to support species

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
coastal newt	*Taricha torosa torosa*	--	SSC	--	valley-foothill hardwood, conifer, coastal scrub and mixed chaparral, annual grassland and mixed conifer types with breeding sites	Confirmed: species was observed on project site
Birds						
Cooper's hawk	*Accipiter cooperi*	--	SSC	--	Riparian and live oak habitats usually, but variety of habitats near water	High: suitable habit exists on the project site
sharp-shinned hawk	*Accipiter striatus*	--	SSC	--	Nesting - riparian, deciduous, mixed conifer. Prefers riparian habitats (isolated)	Confirmed: species was observed on project site
tricolored blackbird	*Ageliaus tricolor*	--	SSC	--	Nesting colony - Central Valley and vicinity. Requires open water, protected nesting substrate (e.g. emergent vegetation) and foraging area	None: No suitable habitat on project site
short-eared owl	*Asio flammeus*	--	SSC	--	Annual and perennial grasslands, prairies, dunes, meadows, and saline and freshwater emergent wetlands	Low: habitat on the project site is not likely to support species
long-eared owl	*Asio otus*	--	SSC	--	Riparian woodland	None: No suitable habitat on project site
Burrowing owl	*Athene cunicularia*	--	SSC	--	Burrow sites in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation	Low: habitat on the project site is not likely to support species
northern harrier	*Circus cyanus*	--	SSC	--	Foothill and valley grasslands, meadows, emergent wetlands, rarely found in heavily wooded areas	Low: habitat on the project site is not likely to support species
yellow warbler	*Dendroica petechia brewsteri*	--	SSC	--	Riparian woodlands	Low: habitat on the project site is not likely to support species
white-tailed kite	*Elanus leucurus*	--	FP	--	Open grassland, meadows, oak and deciduous woodland	Confirmed: species was observed on project site
willow flycatcher	*Empidonax traillii*	--	E	--	Dense willow stands, near water	Low: habitat on the project site is not likely to support species
California horned lark	*Eremophila alpestris actia*	--	SSC	--	Variety of open habitats	Low: habitat on the project site is not likely to support species

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
Merlin	*Falco columbarius*	--	SSC	--	Ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitat (Including open grasslands and woodlands)	Low: habitat on the project site is not likely to support species
prairie falcon	*Falco mexicanus*	--	SSC	--	Dry open terrain (nesting). Associated with perennial grasslands, savannahs, and rangeland	Low: habitat on the project site is not likely to support species
American peregrine falcon	*Falco peregrinus*	--	E,FP	--	Near wetlands, rakes, rivers, or other water (nesting): on cliffs, dunes, mounds, and human made structures	None: No suitable habitat on project site
salt-marsh common yellowthroat	*Geothlypid trichas sinuosa*	--	SSC	--	San Francisco Bay Region, salt and fresh water marshes	None: No suitable habitat on project site
bald eagle	*Haliaeetus leucocephalus*	T	E, FP	--	Nests in large, old-growth, or dominant live tree with open branchwork, Nest usually located near a permanent water source.	Confirmed: species was observed on project site
loggerhead shrike	*Lanius ludovicianus*	--	SSC	--	Variety of open habitats, including valley foothill, woodland and riparian	Medium: limited habit exists on the project site
California black rail	*Laterallus jamaicensis coturniculus*	--	T,FP	--	Salt marshes	None: No suitable habitat on project site
purple martin	*Progne subis*	--	SSC	--	(Nesting) Woodlands, coniferous, Douglas fir, ponderosa pine, Monterey pine	Low: habitat on the project site is not likely to support species
California clapper rail	*Rallus longirostris obsoletus*	E	E,FP	--	Salt-water and brackish marshes in the vicinity of San Francisco Bay	None: No suitable habitat on project site
Mammals						
pallid bat	*Antrozoas pallidus*	--	SSC	--	Deserts, grasslands, shrublands, woodlands. Most common in open dry habitats with rocky areas for roosting	Medium: limited habit exists on the project site
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii*	--	SSC	--	Humid coastal regions of northern and central Ca. Roost in caves, lava tubes, mines etc.	Low: habitat on the project site is not likely to support species
western mastiff bat	*Eumops perotis*	--	SSC	--	Foothill and valley grassland, chaparral, coastal and desert scrub, conifer and deciduous woodland	Low: habitat on the project site is not likely to support species

Table 4.1-2
Special Status Species Potentially Occurring in the Vicinity of the Project Site

SPECIES		STATUS[1]			HABITAT	POTENTIAL FOR OCCURRENCE
		USFWS	CDFG	CNPS		
salt-marsh harvest mouse	*Reithrodontomys raviventris*	E	E	--	Saline emergent wetlands of San Francisco Bay and its tributaries	None: No suitable habitat on project site
Suisun shrew	*Sorex ornatus sinuosus*	--	SSC	--	Tidal marshes of the northern shores of San Pablo and Suisun Bays	None: No suitable habitat on project site

Source: EDAW 2004

[1] Legal Status Definitions
U.S. Fish and Wildlife Service Federal Listing Categories
E= Endangered (legally protected)
T =Threatened (legally protected)

CDFG = California Department of Fish and Game
CNPS = California Native Plant Society

[2] This species appears to have been misidentified and documented on the property in 2002 (Kjeldsen 2002).

California Department of Fish and Game State Listing Categories
E = Endangered (legally protected)
T =Threatened (legally protected)
R=Rare (legally protected)
FP=Fully Protected (legally protected, no take allowed)
SSC = California Species of Special Concern (no formal protection)

California Native Plant Society Categories
1B= Plant species considered rare or endangered in California and elsewhere (but not legally protected under ESA or CESA)
2= Plant species considered rare or endangered in California but more common elsewhere (but not legally protected under ESA or CESA)
3=More information is needed to define status (Currently on Review List)

Special Status Plants

Species of plants which are listed as 1B by the CNPS are rare throughout their range, and all but a few are endemic to California. All of these plants are judged to be vulnerable under present circumstances or to have a high potential for becoming so because of their limited or vulnerable habitat, their low numbers of individuals per population (even though they may be wide ranging), or their limited number of populations. Most of the plants of List 1B have declined significantly over the last century (Table 4.1-2).

Holly-leaved ceanothus is a CNPS 1B plant previously found on the Rodger's properties but not within the proposed project area (Kjeldsen, 2002). During the 2004 special-status plant surveys, EDAW biologists found holly-leaved ceanothus along both sides of the fence line at the eastern boundary of the property. The distribution of holly-leaved ceanothus on the Rodger's properties does not overlap any of the proposed vineyard blocks. The closest location is Vineyard Block 36, which is approximately 400 feet south and on the opposing side of the drainage (Figure 4.1-1). The habitat for holly-leaved ceanothus is rocky ground supporting the Leather Oak/California Bay/Leather Oak Alliance and the Chamise Alliance. Chamise was the sole dominant shrub at the

previously known occurrences. All blocks proposed for development avoided these habitat types and have a 100-foot or greater buffer zone.

Napa western flax (*Hesperolinon serpentinum*) is ~~another~~ ***a*** CNPS 1B plant species which ***appears to have been misidentified and documented*** on the property in 2002 (Kjeldsen 2002). The occurrence was recorded on serpentinite outcrops, located to the east of ***the*** drainage containing the Brewer's Willow Alliance habitat and at the bottom of the Chamise habitat on the southeast side of the property. During 2004 surveys, EDAW biologists thoroughly searched this area for Napa western flax ***during its blooming period (May – July)*** but did not locate any plants. ~~Seeing that these surveys were conducted during the reported blooming periods, it is not clear why the plants were not located, but rough terrain, a thick shrub layer, and a limited amount of time spent searching likely contributed.~~ ***Because this species can be difficult to identify from other flax species unless it is found in bloom, EDAW botanists conducted a follow-up survey in early June 2008 and positively identified a similar but different species, slender western flax (Hesperolinon spergulinum), which was in bloom and present across the same area. This species is relatively common and is not a special-status or protected species. Based on this new information and because*** ~~Nevertheless,~~ Vineyard Blocks 50 and 51, which were originally proposed in this area, ~~east of the drainage,~~ were eliminated ***from the proposed vineyard plan, no further discussion related to Napa western flax is warranted.***

Additional species with a medium to high potential for occurrence included Franciscan onion (*Allium peninsulare* var. *franciscanum*), Napa false indigo (*Amorpha californica* var. *napensis*), Sonoma manzanita (*Arctostaphylos canescens* ssp. *sonomensis*), big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Sonoma sunshine (*Blennosperma bakeri*), narrow-leaved daisy (*Erigeron angustatus*), Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*), two-carpellate western flax (*Hesperolinon bicarpellatum*), Colusa layia (*Layia serpentrionalis*), Jepson's leptosiphon (*Leptosiphon jepsonii*), Mt. Diablo cottonweed (*Micropus amphibolus*), Marin County navarretia (*Navarretia rosulata*), and green jewel-flower (*Streptanthus breweri* var. *hesperids*). To some degree, these species have similar habitat to that found on the project site; however, the habitat is limited and is unlikely, in the opinion of the professional botanist who conducted the field surveys, to support these species.

Of the additional species listed above, searches of the CNDDB and CNPS database documented occurrences of Jepson's leptosiphon (north of Lake Hennessey) and green jewel-flower (between Lake Hennessey and the project site) within a mile or less of the project site. Although habitat on the project site could support these species, these species were targeted during reconnaissance surveys and were not located.

Special Status Wildlife

Table 4.1-2 lists 32 special status animal species with potential to occur in the project vicinity; however, many of these species are not expected on the project site because suitable habitat is absent. Of the species included in the table, those documented in the project vicinity or determined to have ***at least some*** ~~medium or high~~ potential to occur in the project area are discussed further below. With the exception of a federally listed (threatened) juvenile bald eagle seen flying over the project area, no federally listed or endangered species were located within the project area. Other special-status species potentially occurring in the project area are limited to California Species of Special Concern (SSC) by CDFG. This category includes species that are declining at a rate that could result in listing, or have historically occurred in low numbers with known threats to their persistence currently exist.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB), was listed as a federally threatened species on August 8, 1980 (Federal Register 45: 52803-52807), primarily due to the historical loss of riparian habitat throughout the Central Valley. Recently, a five-year review by the USFWS included recommendation to de-list the species, citing a slowdown in riparian habitat loss and a number of programs that have restored thousands of acres of VELB habitat that have helped to recover the species (USFWS 2006).

Studies show that the documented range of the VELB is within the Central Valley from southern Shasta County south to Fresno County in the San Joaquin Valley (Barr 1991). VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley.

The Project site is located near the western edge of the VELB's documented range. The closest historically documented occurrence of the beetle is in the southeast corner of Napa County, on Gordon Valley Road, which is approximately 7 miles from the Project site. Elderberry shrubs were reportedly observed and recorded on the Project site as occasional during a March 2000 botanical survey (Kjeldsen 2001); however, according to the biologist that conducted the survey, they were only seen in one area near blocks 32 and 33, and did not exhibit exit bore holes, which indicate the beetle might exist (Kjeldsen, 2006). The Kjeldsen biologist's opinion was that he did not suspect the VELB was present on the site. The 2004 surveys performed by EDAW biologists did not note elderberry shrubs on the proposed project site, and based on the limited and isolated nature of the habitat, and the fact that the project site is outside the documented range of the VELB, the species is not expected on the project site.

Western Pond Turtle

Western pond turtle (*Clemmys marmorata*) are associated with permanent or semi-permanent water habitats. Western pond turtles inhabit a variety of aquatic habitats and are found in rivers, streams, lakes, ponds, wetlands, reservoirs, and brackish estuarine waters. Western pond turtles use aquatic habitats primarily for foraging, thermoregulation, and avoidance of predators; they require emergent basking sites, and have been observed to avoid areas of open water lacking them (Holland 1994). Basking sites can include rocks, logs, or emergent vegetation, and are used by the turtles for thermoregulation. The only permanent water sources in the project area are two agriculture stock ponds. The ponds provide low-quality habitat for western pond turtles since they provide little refuge from predation, low foraging potential, and have no basking sites.

California Red-legged Frog

The project site is not known to be within the current range of the California red-legged frog (*Rana aurora draytonii*) (CRLF). The nearest documented CRLF frog populations (CNDDB, 2006) are located in a tributary to Oak Moss Creek (2003) and in Wraggs Creek (1983), both of which are south of Lake Berryessa and over 10 miles east of the project site. Another sighting is documented off Howell Mountain Road (1979), near Pope Valley, which is approximately 8 miles north of the project site; however, the CNDDB database notes that this spring is now capped and goes dry by April.

Two stock ponds on the project site are considered potential habitat for the CRLF. The southernmost pond would be surrounded on all sides by Vineyard Blocks 32 and 33; and the northeast pond would be immediately adjacent to Vineyard Block 11. Neither pond would be removed or filled. EDAW biologists noted that the ponds do not provide high-quality breeding conditions for the CRLF due to the lack of emergent/riparian vegetation and refuge from predation, and the seasonal drainages do not support favorable conditions for CRLF breeding.

In 2001, the USFWS designated critical habitat for CRLF in three areas of Napa County (Federal Register, 2001), but rescinded the designation of these and all but two of the other designated areas in June of 2002. Critical habitat for the CRLF was finalized by the USFWS on April 13, 2006 (Federal Register, 2006) and now includes one unit in Napa County: NAP-1 Wragg Creek. Additionally, a unit in southwestern Solano County, SOL-1 Sky Valley, extends slightly into extreme southeastern Napa County south of Interstate 80 and west of Interstate 680. The project site is located more than 10 miles west from the closest critical habitat designated in the final rule.

Foothill Yellow-legged Frog

The foothill yellow-legged frog (*Rana boylii*) (FYLF), is a California SSC. The project site does not include high-quality habitat for this species. The large eastern drainage contains adequate cobble substrate to support the FYLF; however, it lacks perennial flows that are necessary to support this species. The intermittent drainages onsite also lack sufficient surface water to provide habitat for this species. The FYLF was not observed during multiple surveys.

Coast Range Newt

The coast range newt (*Taricha torosa torosa*) is a California SSC, primarily in its southern range (i.e., south of the Salinas River). Primary habitat includes valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral, but the species is also known to inhabit annual grassland and mixed conifer types, and utilizes ponds, reservoirs, and pools in streams to breed. During spring, 2004 surveys by EDAW biologists, this coast range newt was observed in the large eastern drainage that feeds into Lake Hennessey. Several large relatively deep pools were observed to contain moderate sized populations (12-24 individuals). These pools were fed by groundwater seeps, and often covered by woody riparian vegetation which may extend the length of time the pools persist. The large eastern drainage is not within the area that would be affected by grading or other project activity.

Special Status Bats

Special status mammal species that could potentially occur on the project site are limited to bats including Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*), western mastiff bat (*Eumops perotis*) and pallid bat (*Antrozous pallidus*). A few large trees with cavities were identified within proposed project area; however, no evidence of roosting bats (e.g., guano) was identified within the cavities or adjacent areas. Several rock outcrops and a relatively large abandoned mine shaft located in the northwest section of the properties have a potential to provide bat habitat; however, the majority of the rock outcrops and the mine shaft are outside of the proposed project area. The project stock ponds may provide foraging habitat for bats; however, bats can range over large distances when foraging, and sufficient suitable foraging habitat is available within their range.

California Horned Lark

California horned lark (*Eremophila aplestris actia*) is a California SSC that nests in grasslands. The habitat components on the site are not considered suitable and California horned larks were not observed during surveys. Preferable habitat for the California horned lark includes open, short-stature grasslands usually where trees and

large shrubs are absent. The tall thick annual grasses that occur on site combined with the oak woodlands preclude nesting and foraging for the California horned lark.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is a California SSC and a resident and winter visitor in lowlands and foothills throughout California. Preferred habitat includes open areas such as desert, grasslands, and savannah. Loggerhead shrikes nest in thickly foliaged trees or tall shrubs, and forage in open habitats which contain trees, fence posts, utility poles, and other perches, and are usually solitary birds. Suitable nesting and foraging habitat for loggerhead shrike occurs in the chamise, oak alliances, and grasslands of the project site. Although loggerhead shrike was not observed on site, they have a moderate potential of occurring within the project area.

Willow Flycatcher

Willow flycatcher (*Empidonax traillii*), a California endangered species, is found is dense multi-layered riparian areas, and large wet meadows with abundant willows for breeding. The narrow northeastern drainage provides riparian habitat and does not contain adequate willow density and cover suitable for nesting willow flycatcher, nor were willow flycatchers were not located during surveys. Therefore, willow flycatcher is not expected to occur in the project area.

Purple Martin

Purple martin (*Progne subis*) is a California SSC that is found in a variety of woodlands and coniferous forest (Douglas-fir, ponderosa pine, and Monterey pine) where it will utilize old woodpecker cavities in large diameter, tall trees near a body of water. Although multiple observations of pileated woodpecker were recorded on the project site during surveys (primarily on the west and central portion of the properties which may provide potential nesting habitat for purple martin, no purple Martin's were observed. Therefore, it is unlikely that this species occurs on the project site. Additionally, the adjacent woodland and coniferous habitat that are not part of this project will provide potential habitat for purple martin.

Bald Eagle

The bald eagle is a USFWS threatened and state fully protected species This species is currently proposed for federal delisting (64 FR 36453). In California, this species is currently State-listed as endangered. Bald eagles currently nest throughout the western U.S., including California. As of 1999, there were 188 known nesting territories in the 58 California counties (CDFG 2004). Although no data have been summarized for more recent years, the upward trend in nesting population appears to be continuing. In

northern California, bald eagles are year-round residents and hundreds of additional bald eagles migrate into California during the winter from outside the state.

Bald eagles usually nest in the same territories year after year but may use alternate nests (as many as five) within the territory. Nesting habitat in California and throughout the Pacific states is described as multi-storied forests with old-growth trees and snags that are near water (Zeiner et al. 1990). Approximately one-third of the nest sites were within 0.1 mile of a water body and 85 percent of the nests had an unobstructed view of the water body. Seventy percent of the nests were associated with reservoirs. In most of California, the breeding season lasts from about January through July or August (CDFG 2004).

Wintering eagles require diurnal perches and nocturnal roosts. Perches need to be near a food source—usually within 164 feet of water—while roosts can be many miles from the foraging area (Stalmaster 1987). Perches can be natural or man-made, but need to be relatively tall and strong enough to support eagles. Sometimes eagles will perch on lower objects or structures such as fence posts, rocks, or buildings (Stalmaster 1987). Eagles spend 90 percent of the daylight hours perched, either hunting for prey, resting, or eating (Stalmaster 1987).

Roost sites typically provide shelter from cold, wind, and precipitation, and may be used communally or by individual eagles. Roosts are most often conifer stands, but in some areas cottonwoods and willows are used for night roosting (Isaacs and Anthony 1983). In northern California, several nesting pairs studied by Pacific Gas and Electric were found to be year-round residents. In this case, eagles typically roost during the winter within several miles of the nest site (FWS 1986). Communal roosts can support many eagles and are typically not too far from a rich food source (concentrated waterfowl or fish) (FWS 1986). Isolation is an important component of winter roosts; therefore, areas near development and human activity are sometimes avoided.

According to CNDDB reports, wintering habitat for the bald eagle exists in the Napa Valley, and two immature bald eagles wintered on the north and south ends of Lake Hennessey in 1988. An immature bald eagle that was observed during each survey of the properties was seen on a variety of perch trees including a large eucalyptus along Silverado Trail and along the northern end of the properties in the oak woodlands. It is likely the observed immature is offspring from a nesting pair at Lake Hennessy.

Sharp-shinned Hawk

Sharp-shinned hawks are California species of special concern that often prefer riparian areas for nesting and foraging but may be found nesting in black oak, deciduous

riparian, and mixed coniferous habitats. This species was observed on the properties during surveys and in previous studies (Kjeldsen 2002). Although sharp-shinned hawk nests were not observed on the properties, the repeated sightings indicate this species is likely nesting on or very close to the properties. The riparian areas near the northeast portion of the properties would not be disturbed as part of the project and would continue to provide preferred habitat for this species.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is fully protected under by the state of California. White-tailed kites breed in variety of habitats including lowland grasslands, agriculture, wetlands, oak-woodland and savannah habitats, riparian habitats associated with open areas, and may nest in tress or shrubs. Kites do not seem to associate with particular plant species, but are more tied to prey abundance and vegetation structure. Habitats supporting larger prey populations are more suitable, but kites may respond more directly to the abundance of competitors. During the 2004 surveys preformed by an EDAW biologist, the white-tailed kite was seen flying over the west and southwest portions of the properties, and the Kjeldsen report (2001) also indicated white-tailed kites flying over the project site. Nest sites were not observed, but suitable nesting habitat exists within the project area. Adjacent habitat outside of the proposed vineyard blocks also provides potential nesting and foraging habitat for white-tailed kites.

Wildlife Movement Corridors

In general, wildlife corridors can be defined as areas that provide connectivity between habitats, as well as provide habitat for more resident uses such as foraging, reproduction, and dispersal. Wildlife corridors are often associated with drainages due to the presence of water, and are often narrow strips that differ from the surrounding habitat. In the project area the predominant species using these corridors would be black-tailed deer, gray fox, coyote, bobcat, and mountain lion. The project site is currently unfenced and unrestricted to wildlife movement. The project proposed in the original application to the County could have significantly interfered with the movement of wildlife between the eastern and western sides of the properties. Although some of the steepest drainages were left open, the originally proposed layout of adjoining blocks would have potentially impeded both east and west movement across the properties resulting in a decrease in the habitat value of the undeveloped portions of the properties. The project applicant revised the application by creating sufficient openings/passages and reducing the use of fencing along some of the agricultural avenues/roads, providing wildlife corridors that allow adequate movement between the east and west portions of the property (Figure 4.1-1). This improved layout includes individual fencing of contiguous vineyard blocks that minimize impediments to wildlife movement and allows them to access and move more freely between Lake Hennessey,

and its relatively undeveloped surrounding watershed, and the undeveloped portions of the watershed on the west side of the property, both which contain important food and habitat resources.

Fisheries

Although the project area does not have adequate water to support fisheries on the project site, the site is situated above Lake Hennessey which is considered substantial fishery habitat by CDFG and Napa County. Additionally, some of the drainages on the west side of the properties drain to the Napa River, which is designated as impaired due to pathogens, nutrients, and sediment, but also contains habitat that supports the federally threatened Central California Coast Steelhead (*Oncorhynchus mykiss irideus*).

4.1.5 Potential Impacts and Mitigation Measures

Significance Criteria

These thresholds have been prepared based on review of the applicable parts of Appendix G and Section 15065 of the State CEQA Guidelines. The proposed project area is not subject to a Habitat Conservation Plan and would therefore not conflict with such a plan. The proposed project would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional, plans, policies, or regulations or by CDFG or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan.
- Substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species.

Impacts and Mitigation Measures

This section examines the potential for significant environmental impacts from the proposed project and determines if mitigation measures are needed.

Impact 4.1-1: Oak Woodlands (Less than Significant)

As shown in Table 4.1-3 below, ~~T~~*t*he proposed project would remove approximately 121 acres of mixed oak woodland (roughly one third of the properties' oak woodlands), and approximately 296 acres of oak woodlands would remain intact. The vineyard blocks are arranged so that large contiguous stands of oaks would not be removed (Figure 4.1-1). The most extensive oak woodland removal would occur among four vineyard blocks: Block 34 (nearly 32 acres), block 41 (just over 13 acres) and blocks 25 and 27 which are contiguous (a combined total removal of 21 acres).

The University of California Integrated Hardwood Range Management Program (IHRMP) has issued several publications intended to guide the analysis of impacts on oak woodland. One such document, the Oak Woodland Impact Decision Guide - A Guide for Planners to Determine Significant Impacts, attempts to guide accurate decision making concerning significant impacts to oak woodlands. Researchers from the IHRMP have been working with several counties, in conjunction with DFG, to draft oak woodland conservation plans, several of which have developed strict policies on mitigating oak woodland impacts. No such effort has been undertaken in Napa County. However, using the evaluation criteria provided in the Decision Guide, the County's consultants determined that the ecological functions of the oak woodlands on the Rodgers property are relatively undisturbed and intact, although the site has been altered from its natural conditions by cattle grazing for many decades and by the construction of a few minor dirt roads and other small human made structures. The habitat is generally characterized as having high quality because the original oak woodland forest structure remains intact and the primary habitat functions remain in place, as discussed below. With implementation of the proposed project, the habitat benefits provided by one third of the oak woodlands on the

project site would be permanently lost or substantially diminished by conversion to vineyard, which use provides low habitat quality. Remaining oak woodlands on the site – constituting close to 300 acres – would retain their habitat value based on evaluation criteria contained in the Decision Guide.

Benefits of oak woodlands that are typically lost or altered through habitat conversion to vineyards include:

- ***wildlife habitat;***
- ***wildlife movement corridors for common and special-status species;***
- ***foraging for common and special-status species***
- ***food sources for common and special-status species***
- ***(acorns, leaves, twigs, sap, roots, pollen) that are the basis for a complex food web, with herbivores eating oak products and carnivores eating herbivores (insects, birds, mammals)***
- ***shade and shelter;***
- ***nutrient cycling; and***
- ***groundwater filtration and retention.***

While the large acreage (121 acres) of high quality oak woodland that would be subject to habitat conversion under the project would reduce habitat on the site, this habitat reduction would not result in a loss of special status plant species or adversely affect special status animal species if mitigation measures related to nesting raptors are followed (Mitigation BIO 4.1-6). Furthermore, the proposed vineyard layout would preserve wildlife movement corridors. As described in Section 3.3.2-Vineyard Layout, wildlife passages ranging from 50 to 200 feet wide have been incorporated into the vineyard design proposed by the applicant, as recommended by the EDAW biologist in conjunction with California Department of Fish and Game. These wildlife passage features are shown on Figure 4.1-1.

Based on the above, the project's effect on oak woodlands would be less than significant. The project's contribution to cumulative effects on oak woodlands is addressed in Section 5.2.1.

~~While implementation of the project would result in a large amount of oak woodland removal, it would not be considered a significant impact because CEQA section 21083.4(d)(3) specifically exempts the conversion of oak woodlands for agricultural purposes from the significance determination and mitigation requirements.~~

Table 4.1-3
Oak Woodlands Removed

Plant Community	Total Acres	Acres Not Impacted	Acres Impacted
Blue oak	159.68	113.44	46.24
Coast live oak	27.82	11.06	16.76
Coast live oak/blue oak	228.17	170.31	57.86
Oak Woodland Total	**415.67**	**294.81**	**120.86**

Mitigation Measures: None required.

Impact 4.1-2: Spread of Sudden Oak Death (Less than Significant)
Surveys for SOD were not conducted on the site. It is not known if SOD occurs within ¼ mile of the area. However, SOD may occur within the area. The potential for a significant impact exists if infested plants are removed or trimmed during construction and the parts are transported to a non-infested county or state. Leaving materials on-site (without burning them), or moving them only within the 13-county infested area, are actions that do not violate state or federal regulations, and would not constitute a significant impact. However, if movement of plant materials outside the 13-county infested area is expected then the impacts would be significant and mitigation required.

If plant materials are to be transported to a non-infested county or state, the project proponent shall comply with all applicable laws and regulations during the performance of vegetation trimming, clearing, and removal activities. Significant impacts associated with the spread of the SOD pathogen would be avoided by complying with applicable laws and regulations.

Mitigation Measures: None required.

Impact 4.1-3: Sensitive Habitats (Less than Significant)
Setbacks of 65-feet and silt barriers designed to buffer impacts to jurisdictional waters from the proposed project are present on several watercourses and specifically avoid areas adjacent to Vineyard Blocks 14, 31, 34, and 52. The proposed project is therefore not anticipated to disturb the Brewer's willow/riparian habitats in the project area, and would not result in direct or indirect impacts to this habitat. Additionally, as indicated in Sections 4.3 (Geology) and 4.4 (Hydrology), erosion and sediment transport would be reduced relative to existing conditions as result of measures contained in the ECPA. The project would, however, result in the disturbance of Native Perennial Grassland Association (native grassland) and Serpentine Grassland Super Alliance (serpentine grassland).

Approximately 0.26 acre of native grassland mapped within and adjacent to the proposed project, specifically near Vineyard Block 14, would be disturbed as a result of this project. Purple needlegrass is not an uncommon, low-cover component within oak woodlands and rock outcrops; however, it is less common to find a large stand. Although it is preferable to avoid this increasingly rare habitat, the native grassland on the project site has been substantially degraded from cattle grazing and is of poor quality. The almost 0.60 acre of this grassland not directly affected by the proposed project (Figure 4.1-1) could continue to be degraded if grazing continues at the same levels after implementation of the proposed project (farming, including grazing, is a right and could continue in the future with or without the proposed project and does not require any special approvals by the County of Napa.) ~~The removal of 0.26 acres of native grassland is not considered a significant impact because there are no specific protections for native grassland and the loss of native grassland would not substantially affect the local or regional distribution of this habitat.~~ ***While the project would eliminate 0.26 acre out of 0.85 acre of native perennial grassland on the site, this impact is not considered significant at a project-level because there are no state or federal protections for this vegetation community, there are no special-status species within the affected habitat, and because the majority of the habitat on the site would be avoided. The project's contribution to cumulative effects on native perennial grassland is addressed in Section 5.2.1.***

The proposed project would disturb 1.37 acres of serpentine grassland. The serpentine grassland that would be disturbed is currently fragmented by an existing road and is of low quality. The remaining 7.10 acres of serpentine grassland would not be fragmented as a result of the proposed project. While the project would disturb 1.37 acres of serpentine grassland, this impact is not considered significant ***at a project-level*** because there are no state or federal protections ***for this vegetation community*** ~~to this species~~, there are no special-status species within the habitat, and because the majority of the habitat ***on the site*** would be avoided. ***The project's contribution to cumulative effects on serpentine grassland is addressed in Section 5.2.1.***

Mitigation Measures: None required.

Impact 4.1-4: California Red-legged Frog (Less than Significant)

Two stock ponds on the project site are considered low-quality potential habitat for the CLRF because the ponds exhibit low-quality breeding conditions and lack emergent vegetation and refuge from predation. The northwest pond supports a breeding population of predatory bullfrogs, and no frogs or amphibian species were observed in the southeast pond. Additionally, seasonal drainages associated with the ponds flow for relatively brief periods of time during and shortly after rain events, and consequently do

not support favorable conditions for the CRLF. The large eastern drainage that feeds into Lake Hennessey was also examined for potential amphibian habitat. This drainage is poor quality habitat for the CRLF due to the relative lack of emergent vegetation, sunny locales, and evident perennial flows. Although the drainage had a few seep areas that may provide year round water, there was no emergent vegetation or suitable habitat.

Mitigation Measures: None required

Impact 4.1-5: Coast Range Newt (Less than Significant)

The coast range newt would not be substantially affected by the proposed project, as project activity would not occur in the riparian habitat in which they reside. Indirect impacts could result from increased sediment loads and pesticide use; however, the Erosion Control Plan (#02-454-ECPA) and proposed 65-foot setbacks from watercourses would reduce potential impacts to a less-than-significant level. The ECPA proposes the installation of water bars to divert runoff away from sensitive areas, straw bales and silt fences during construction to filter runoff and protect waterways, permanent no-till cover crops within vineyard blocks to filter and reduce runoff, and rock barriers to further attenuate the effects of runoff and filter potential sedimentation. As indicated in Sections 4.3 (Geology) and 4.4 (Hydrology), these measures would decrease post-project erosion and sediment transport relative to pre-construction conditions, and peak discharges for the 2-, 5-, 10-, 25-, 50-, and 100-year storm event in the Lake Hennessey gulch, where the coast range newt is known to exist, would remain unchanged.

The applicant can be expected to apply regulated pesticides and herbicides, which are commonly used in Napa County. If used according to the manufacturer's instructions, these applications would not result in substantial water quality impacts.

Mitigation Measures: None required.

Impact 4.1-6: *Cooper's Hawk*, White-tailed Kite, Sharp-shinned Hawk, Bald Eagle and Other Raptor Species (Significant)

Construction activity related to ECPA installation and follow-up planting of the vineyard has the potential to cause both direct (through removal of nest trees) and indirect impacts (from noise and human activity), which could lead to decreased nest success or nest failure/abandonment in trees adjacent to installation activity. These impacts would constitute a significant impact. Construction and installation activities as a result of the ECPA would have the potential to significantly affect ***Cooper's hawk,*** sharp-shinned hawk, white-tailed kite, bald eagle, and other raptor species (sharp-shinned hawk, white-tailed kite, and bald eagle were the only raptors observed on site).

Foraging and likely nesting habitat for the ***Cooper's hawk,*** white-tailed kite and the sharp-shinned hawk exists within the proposed project area. Nests of these species were not located during surveys and are not known to exist within the proposed project area. However, both species were observed during the 2004 surveys, indicating that further surveys could reveal their presence. Surrounding properties include open grassland and oak forest habitats that would still provide potential foraging and nesting habitat for many raptor species, and planted vineyards may also provide potential foraging habitat. As a result impacts to foraging habitat would not be considered significant.

The project properties and adjacent area provide diurnal perching sites for bald eagles, and larger trees outside of the project site may provide suitable roosting and even nesting for bald eagles, All eagles including bald eagles, find carrion (often times road kill) suitable forage which may be why the immature was seen near this roadway so frequently. Although it is clear the project site properties are used for foraging, diurnal perching, and may provide suitable natal dispersal and immature eagle territories, the project would not significantly decrease the number of available perch sites located on the properties due to the large amount of trees and foraging sites which would remain on the site and on adjacent sites.

Construction impacts associated with the project would not substantially affect the bald eagle over-wintering habitat at the north and south ends of Lake Hennessey. The remaining habitat on the project site and adjacent lands, and habitat around Lake Hennessey itself, would provide sufficient foraging and roosting habitat. Therefore, significant impacts to over-wintering, foraging, or roosting habit are not anticipated, but it is possible that the project site could support a bald eagle. Disturbance of an active bald eagle nest would be considered a significant impact.

Mitigation Measure 4.1-6: If ground disturbing activities occur within the breeding season of nesting raptors (February 1 to August 31), focused surveys shall be conducted to determine whether nesting occurs within the area. Surveys shall be conducted by a qualified biologist with knowledge of the nesting behavior of birds, and shall include all areas that are within 500 feet of any earthmoving activities. A survey shall be conducted each year in which activity would occur during the nesting season and within 14 days prior to the beginning of construction or vegetation removal in an area in which project activity is not currently underway. If an occupied nest is found, no activities shall occur within 500 feet of the occupied nest until the young have fledged and left the nest. CDFG guidelines recommend implementation of 500-foot buffers, but the size of the buffer may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist may be required

if the activity has potential to adversely affect the nest. If no active nests are found or construction activities are initiated and completed outside of the raptor nesting season, no further mitigation shall be required. Following these mitigation measures, the impacts to these species would be reduced to less than significant.

Significance After Mitigation: Less than significant.

Impact 4.1-7: Fisheries (Less than Significant)

Although the project area does not have adequate water to support fisheries on project site, the site is situated above Lake Hennessey which is considered substantial fishery habitat by CDFG and Napa County. Additionally, the drainages on the west side of the properties drain to the Napa River, which is designated as impaired due to pathogens, nutrients, and sediment, but also contains habitat that supports the federally threatened Central California Coast Steelhead. Although the proposed project would not directly affect fisheries, potential sedimentation from earthmoving activities and pesticide use could indirectly affect fisheries. As stated above in Impact 4.1-5, Coast Range Newt, the proper installation and maintenance of erosion control measures proposed in the ECPA and prudent use of pesticides expected from the integrated pest management (IPM) program designed for vineyards, this impact would reduce this impact to less-than-significant. These measures are further described in Section 4.3 (Geology) and Section 4.4 (Hydrology).

Mitigation Measures: None required.

Impact: 4.1-8: Other Special-status Species with Potential to Occur on the Project Site (Less than Significant)

In addition to those special-status species identified in Impacts 4.1-4, 4.1-5 and 4.1-6, fourteen ~~Thirteen~~ special-status (all CNPS 1B) plant and ***two*** ~~three~~ special-status wildlife species were ***confirmed or*** identified to have a medium to high potential to exist on the property. None of the species are federally or state listed as threatened or endangered species.

~~Although none of these plants were observed during 2004 special-status plant surveys by EDAW biologists, suitable habitat could exists on the property. Of these species, Napa western flax was located on the property in 2002 (Kjeldsen 2002), but during 2004 surveys, EDAW biologists did not locate any plants. Rough terrain, a thick shrub layer, and a limited amount of time spent searching for the species, however, likely contributed to this result. Additional~~ The special-status plant species ~~with a medium to high potential for occurrence~~ include~~d~~ Franciscan onion, Sonoma manzanita, big-scale

balsamroot, narrow-leaved daisy, Tiburon buckwheat, two-carpellate western flax, ***Napa western flax*** [4], Colusa layia, Marin County navarretia, and green jewel-flower. These species are associated with serpentinite outcrops and chaparral habitat, which is located to the east of drainage containing the Brewers Willow Alliance and at the bottom of the Chamise habitat on the southeast side of the property; both are being completely avoided by development (Figure 4.1). Vineyard Blocks 50 and 51, which were originally proposed in this area, were eliminated, so no significant impacts would occur to these resources. ***Holly-leaved ceanothus was confirmed along the eastern boundary of the property, approximately 2,000 feet from the nearest proposed vineyard block (Block 52).*** Napa false indigo, Jepson's leptosiphon, and Mt. Diablo cottonweed, do not generally occur in serpentinite habitats. ~~and~~ ***The*** CNDDB and CNPS databases document occurrences of Jepson's leptosiphon (north of Lake Hennessey) and green jewel-flower (between Lake Hennessey and the project site) within a mile or less of the project site, and. Although habitat on the project site could support these species, these species were targeted during reconnaissance surveys and were not located and the habitat for them to occur on the project site is limited.

Wildlife species include ~~Cooper's hawk,~~ loggerhead shrike~~,~~ and pallid bat. None of these species were observed on site but there is potential for them to occur. The ~~Cooper's hawk occurs in riparian and coast live oak woodlands as well as other habitats near water, the~~ loggerhead shrike occurs in grassy, savannah, and woodland habitat, and the pallid bat occurs in open dry areas with rocky areas for roosting. The proposed project has the potential to reduce some of these habitats; however, a substantial portion of the property (517 acres) would remain undisturbed, and would continue to provide nesting and foraging habitat. Therefore this project would not significantly impact this species.

Additionally a small number of elderberry shrubs were observed on one area of the project site, however, project site is outside the documented range of the VELB and the habitat quality is considered unsuitable.

Mitigation Measures: None required.

Impact 4.1-9: Loss and Degradation of Jurisdictional Wetlands and Waters (Less than Significant)

The proposed project would modify and possibly degrade a small number of ephemeral drainages on the site, primarily from earth-moving activity such as grading and contouring. This activity has the potential to generate sediment that could move

[4] ***As explained in Section 4.1.4 - Existing Conditions, Napa western flax appears to have been misidentified and documented on the property in 2002 (Kjeldsen 2002).***

downstream and impact aquatic features subject to federal and/or state jurisdiction. An Erosion and Sedimentation Assessment (Appendix B) delineated and analyzed water catchments and drainage features across the project area and found no evidence of wetlands; as a result, no formal wetland delineation was conducted. While it is unlikely that jurisdictional features would be located within the project area, consultation with USACE, RWQCB, and CDFG has not occurred regarding their jurisdiction over these drainages. Consultation with these agencies may be required as part of the permitting process.

Drainages affected by the project support surface water for relatively brief periods of time during and shortly after rain events. Generally, these streams contain cobble and boulder in the bed and lack defined banks and hydrophytic vegetation. Other streams are less defined and flow through shallow valleys and swales located in annual grassland and oak woodland habitats. These drainages do not provide significant benefits as aquatic habitat and function more like terrestrial environments during most of the year; however, during the wet season they could provide limited aquatic habitat and could act as migratory corridors for amphibians and other species. Larger drainages with defined bed and bank are primarily found in the lower watersheds and would either be avoided, are not located in areas proposed for vineyard development, or would have 65-foot stream setbacks implemented.

While both major drainages on the west-facing side of the property are not connected to Conn Creek, the largest drainage on the east side and ***two*** ~~a couple~~ smaller drainages on both sides are connected (Appendix B). Conn Creek, which is located below Conn Dam, flows adjacent to the project site and is a major tributary of the Napa River. Beneficial uses of Conn Creek, as defined by the RWQCB, include cold freshwater habitat, freshwater replenishment, fish migration, municipal and domestic supply, fish spawning, and wildlife habitat (SFRWQCB 1995). The RWQCB could require mitigation if they determine that the proposed project would affect these beneficial uses.

Measures taken to reduce these potential effects to on- and off-site water resources are outlined in the ECPA, which is designed to control the potential of erosion related to water and sediment run-off, and changes in the hydrologic regime that could result from the installation and operation of a vineyard on the currently undeveloped site. As stated in Section 3.3.1, the ECPA requires the installation of water bars to divert runoff away from sensitive areas, straw bales and silt fences during construction to filter runoff and protect waterways, permanent no-till cover crops within vineyard blocks to filter and reduce runoff, and rock barriers to further attenuate the effects of runoff and filter potential sedimentation. Rock barriers would be placed in strategic locations in some small drainages, such as at the bottom of drainages and swales, and rocks may be stacked in rows outside of set-back areas to create additional filter and buffer media.

Three small ephemeral drainages, located in Vineyard Blocks 10 and 34, would be rock lined in certain sections to protect and stabilize their drainage (see Figure 3.2 in Section 3.3.1) features. Additionally, vineyard block development would not occur in areas where the average slope is greater than 30 percent.

As stated above, the drainages affected by this project flow for relatively brief periods of time and provide only limited benefits as aquatic habitat, and larger drainages with defined bed and bank would either be avoided or would have at least 65-foot stream setbacks implemented. Downstream sedimentation is not expected to substantially increase; in fact, the Erosion and Sediment Assessment (Appendix B) concludes that following the installation of the ECPA and planting of the vineyard, sediment yield from the vineyard into the creeks and downstream from the project site would be less than under existing conditions.

Mitigation Measures: None required.