Northern Spotted Owl Study

Vineyard 29 P20-00062-MOD
Planning Commission Hearing Date November 1, 2023

MONK & ASSOCIATES
Environmental Consultants

March 31, 2021

Vineyard 29
PO Box 93
Saint Helena, California 94574

Attention: Mr. Chuck McMinn

RE: Survey Report for Northern Spotted Owl and Other Protected Species/Nesting Birds
Vineyard 29 Project, 2929 N St Helena Hwy, Saint Helena, California
APN 022-200-027-000 (~26.2 Acres)

Dear Mr. McMinn:

Monk & Associates, Inc., (M&A) has prepared this report for Northern Spotted Owl (*Strix occidentalis caurina*) surveys conducted at the Vineyard 29 property (herein referred to as the "project site") located west of N St. Helena Highway in St. Helena, California (Figures 1-3). M&A conducted surveys for the Northern Spotted Owl (NSO) to comply with a request from the County of Napa in their April 13, 2020, letter in which they requested that the project address the potential impacts of the project on NSO and other protected species/nesting birds.

Below we provide a description of the project site, the legal status and habitat requirements of the NSO, our survey methods and results. We also provide Figure 4 which shows known special-status species records within three miles of the project site as reported in the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database and Figure 5 which shows NSO records within three miles of the project and indicates which record locations were determined to be positive (POS) or negative (NEG) for NSO. Finally, we provide Table 1 which discusses all special-status wildlife species within three miles and the probability of those species being found on the project site and/or impacted by Vineyard 29's proposed driveway project.

1. PROJECT SITE LOCATION AND SETTING

Located on the steep, east-facing terraces of the Mayacamas Mountains, the project site is just north of downtown St. Helena along the N. St. Helena Highway. The town of Calistoga is approximately 7 miles to the north. The project site's upper elevations are located within the Spring Mountain Appellation; a dense growth of mixed oak-bay woodland with a sparse occurrence of Douglas fir (*Pseudotsuga menziesii*) trees occurs at these higher elevations. This woodland burned in the Glass Fire of 2020, as did woodland and conifer forest on the surrounding properties upslope of the project site. At the time of M&A's survey work most, if not all, of the trees in the project site's woodland area were dead. The project site's lower elevations, where the vineyards are located, lie within the St. Helena Appellation. In addition to the vineyards, the project site's lower elevations house a winery building and facilities. An unnamed drainage channel with intermittent flows, possibly from an offsite spring, travels through the approximate center of the project site, daylighting just below the winery buildings via an outfall structure and extending as an open channel all the way to N. St. Helena Highway where it exits the project site via a culvert under the highway. Along this channel's upper reaches

it is incised and supports oak canopy; it becomes less incised and without a tree canopy at the project site's lowest elevations as it nears N. St. Helena Highway.

2. LEGAL STATUS OF THE NORTHERN SPOTTED OWL

The NSO was listed as a federally threatened species on June 26, 1990, and thus is afforded all the legal protections of the Federal Endangered Species Act (16 U.S.C. 1531 *et seq.*). This species, its active nests, eggs and young are also protected under California Fish and Game Code §3505, §3503.5. These laws protect NSOs from "take," which is defined as "harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Finally, because the NSO is federally-listed as threatened, all proposed projects within its current and historic range must address potential impacts to this species.

3. BIOLOGY AND ECOLOGY OF THE NORTHERN SPOTTED OWL AND ANALYSIS OF HABITAT ON THE PROJECT SITE

The NSO is a medium-sized owl, typically 16.5 to 19 inches tall; females are larger than males. It has an average wing span of 48 inches, and weighs between 17 and 34 ounces. NSOs have dark eyes, no ear-tufts, and are gray-brown in color with round to oval white spots on their head, back, and breast. This is a carnivorous species, with primary prey items including deer mice (*Peromyscus maniculatus*), woodrats (*Neotoma* spp.), flying squirrels (*Glaucomys sabrinus*), and other small rodents. NSOs will also prey upon bats, birds, insects, and reptiles. Primarily nocturnal, NSOs may also hunt diurnally during the nesting season. This owl has a lifespan of 10 to 15 years, and can be reproductively mature in their second year. They are monogamous breeders that mate between January and March. NSOs usually lay one or two eggs in March or April, which is followed by 28 to 32 days of incubation. The nestling stage is 34 to 36 days long, with fledging of the young occurring at its terminus. Parents will continue to care for the young for 60 to 90 after fledging.

According to "Birds of the World" (Gutiérrez, et al. 1995[1]), throughout its range, the NSO nests, roosts, and feeds in a variety of habitat types and forest stand conditions. Tree species used for the aforementioned activities include western hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*), redwood (*Sequoia sempervirens*), ponderosa pine (*Pinus ponderosa*), and western red cedar (*Thuja plicata*); while habitat types used include mixed evergreen forests, mixed coniferous forests, Douglas-fir/hardwood mixed forests, evergreen hardwood forests, pine (*Pinus*)-oak (*Quercus*) mixed forests, and riparian corridors. Steep, rocky canyons are occasionally used for nesting, roosting, and feeding in different parts of the NSO range. There is no western hemlock, redwood or ponderosa pine, or western red cedar trees onsite. Douglas fir is present but in low numbers and none of it is mature, old growth. There are no steep, rocky canyons on the project site. Finally, a narrow riparian corridor does exist on the project site, but it is along an actively used driveway and this narrow riparian corridor lacks the mature/old-growth forest characteristics described below as necessary habitat.

[1] Gutiérrez, R. J., A. B. Franklin, and W. S. Lahaye (2020). Spotted Owl (*Strix occidentalis*), version 1.0. *In* Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA

Most observations of habitat use by NSOs are in areas having some elements of old-growth or mature forest; no such elements occur on the project site. Individual owls have a demonstrated preference for old forest stands, and a seemingly strong concomitant selection against young stands. In fact, most NSO nest sites observed on public lands are in old-growth or mature forests, and there are a significantly greater proportion of mature or old-growth forest stands surrounding nest sites than there are surrounding randomly selected sites. NSOs generally use forests with the utmost complexity and structure. The upper elevations of the project site where woodland occurs is dominated almost exclusively by oak and bay trees with a smaller percentage of the cover provided by young, open stands of Douglas fir and with little to no structural complexity.

Roost sites selected by NSOs generally consist of dense vegetation characterized by high canopy closure, large-DBH (diameter at breast height) trees, and multiple canopy layers. None of these conditions exist on the project site. Furthermore, it is believed that NSOs require the aforementioned characteristics to avoid heat stress. Individuals respond to temperature changes and heat exposure by moving within the canopy to find more thermo-favorable microclimates. Such movement is facilitated by the roost conditions described above.

NSO foraging habitat use is highly variable, as predicted by the varied distribution of the NSO's preferred prey. Despite this variability, foraging habitat remains characterized by high canopy closure and complex structure, which are absent from the project site.

4. METHODOLOGY FOR NORTHERN SPOTTED OWL SURVEYS

In addition to a site habitat assessment conducted in the daytime on December 11, 2020, M&A Certified Wildlife Biologists Mr. Geoff Monk and Ms. Sarah Lynch conducted NSO nocturnal (night-time) surveys of the project site on the nights of December 21, 2020, January 20, 2021, February 17, 2021, and March 22, 2021. Evidence of occupation would include a visual sighting of this owl species, a response from calling activities, or the presence of pellets (i.e., regurgitated prey remains).

During the December 11, 2020 habitat assessment, M&A determined the best locations on the project site for detecting NSO activity and established calling stations in these locations. Survey methods included playing recordings of NSO vocalizations obtained from the Cornell Laboratory of Ornithology's Macaulay Library (http://macaulaylibrary.org/index.do). Continuous calling occurred both at these established calling stations and at opportune locations on the project site. iPhones attached by blue tooth connection to a portable speaker were set to a volume to be heard at least ¼-mile away. At each calling station, the vocalization was played for 3 to 7 calls followed by the observer listening for a response for one to two minutes. A minimum of 10 minutes was spent at each calling station or other geographic location of interest on the project site; while the calling stations were fixed, the other geographic locations of interest varied with each survey. Upon reaching designated calling locations, lights were turned off and M&A biologists opportunistically remained at the calling station quietly for at least 15 minutes prior to commencing with recorded calls (pre-listening). Field notes included weather at the time of each survey, the survey start and stop time and any owl responses or observations.

5. RESULTS OF NORTHERN SPOTTED OWL SURVEYS

All NSO surveys were conducted on nights in which weather conditions were favorable for hearing and seeing NSO. That is, there was no strong wind or any rain on the nights of survey. No NSO were observed or heard during any of the five project site surveys (one diurnal (day-time) survey and four nocturnal (night-time) surveys). The only owls heard during the nocturnal surveys were one Western Screech-owl (*Otus kennicottii*), one Great Horned Owl (*Bubo virginianus*) and one Barn Owl (*Tyto alba*). The Western Screech-owl was heard on December 21, 2020. The Great Horned Owl and Barn Owl were heard on January 20, 2021 and not again.

The project site does not provide suitable NSO habitat for several reasons: 1) Immediately prior to M&A's surveys, the Glass Fire tore through the area, thoroughly burning up the forest floor, burning up all dry wood and branches on the forest floor that would provide cover for prey species (i.e., rodents), leaving a fine ash on the ground. Entire trees were torched and those that were still standing no longer supported horizontal side branches that could provide hunting/roosting perches for NSO and other raptors. At the time of M&A's initial surveys there were smoking stumps and ash throughout the formerly forested area. 2) There are houses immediately adjacent to the project site which indicates moderate to high amounts of human activity in the area, a potential disruption to NSO. 3) The N St. Helena Highway is actively travelled at all times of the day and night and generates a high volume of noise that reverberates all the way up to the upper project site elevations.

M&A has extensive experience conducting NSO surveys and believe that our surveys were conducted at the correct time and under appropriate conditions to detect NSO should they have been present. M&A does not expect that the NSO would nest or roost on the project site or be impacted by the proposed driveway project. Finally, Table 1, attached, addresses all special-status wildlife species listed in the CDFW's Natural Diversity Database as being known to occur within three miles of the project site. This table addresses the probability of these species occurring onsite or being impacted by the proposed driveway project. No impacts to special-status species are expected from the proposed driveway project.

Should you have any questions, or wish to discuss any other aspect of our surveys, please do not hesitate to call Monk & Associates at (925) 947-4867. Sarah Lynch can be reached at extension 203, while Geoff Monk can be reached at extension 201.

Sincerely,

Sarah Lynch
Senior Associate Biologist

J. Geoff Monk
Principal Biologist

Attachments: Figures 1 – 5 and Table 1

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Figure 1. Vineyard 29 Project Site
Regional Map
Saint Helena, California

County: Napa
Map Preparation Date: May 18, 2020

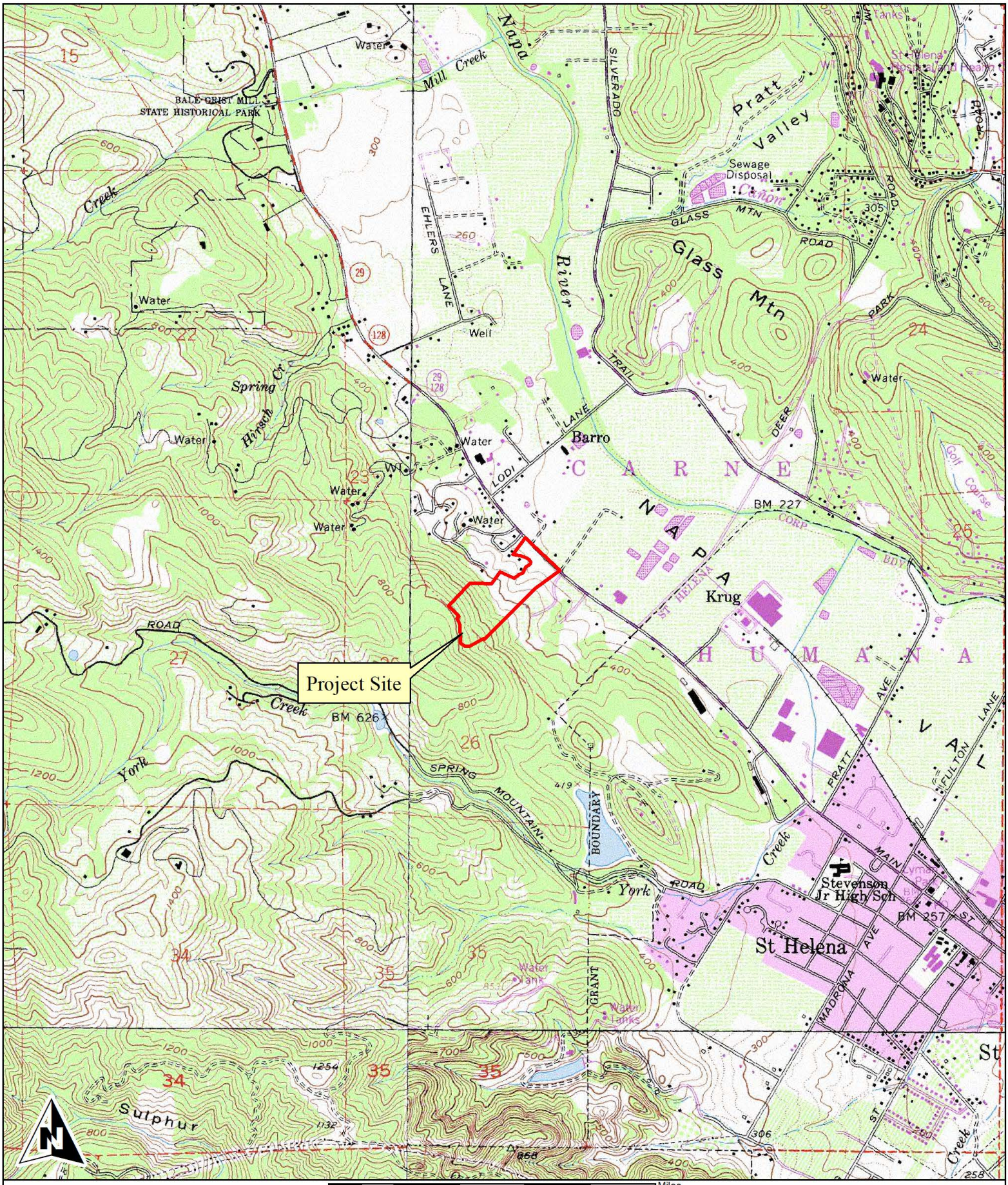

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Figure 2. Vineyard 29 Project Site
Location Map
Saint Helena, California

38.519335 -122.495783
Land Grant
7.5-Minute Saint Helena quadrangle
HUC08 Watershed CA: San Pablo Bay
Topography Source: USGS
Map Preparation Date: May 18, 2020

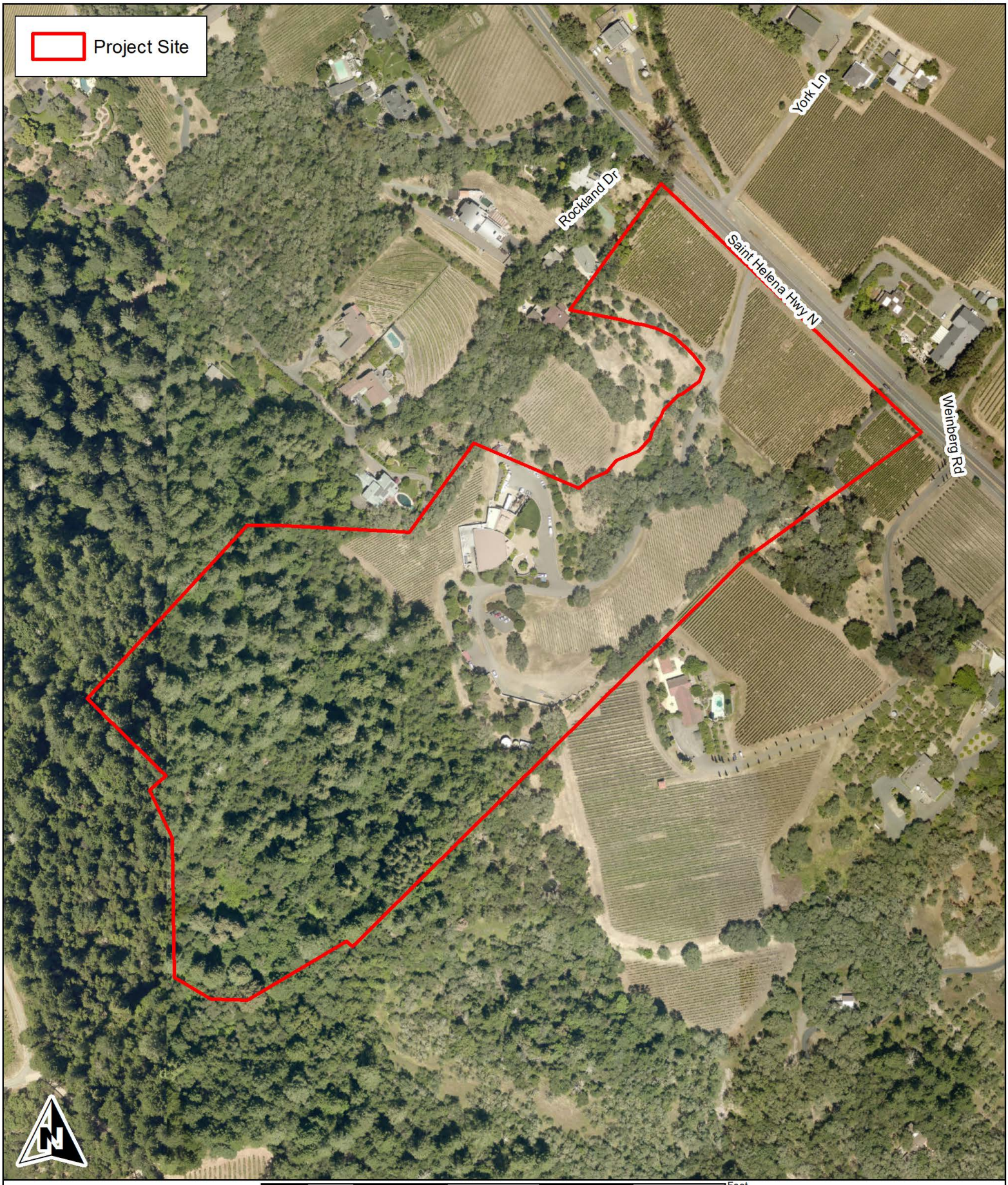

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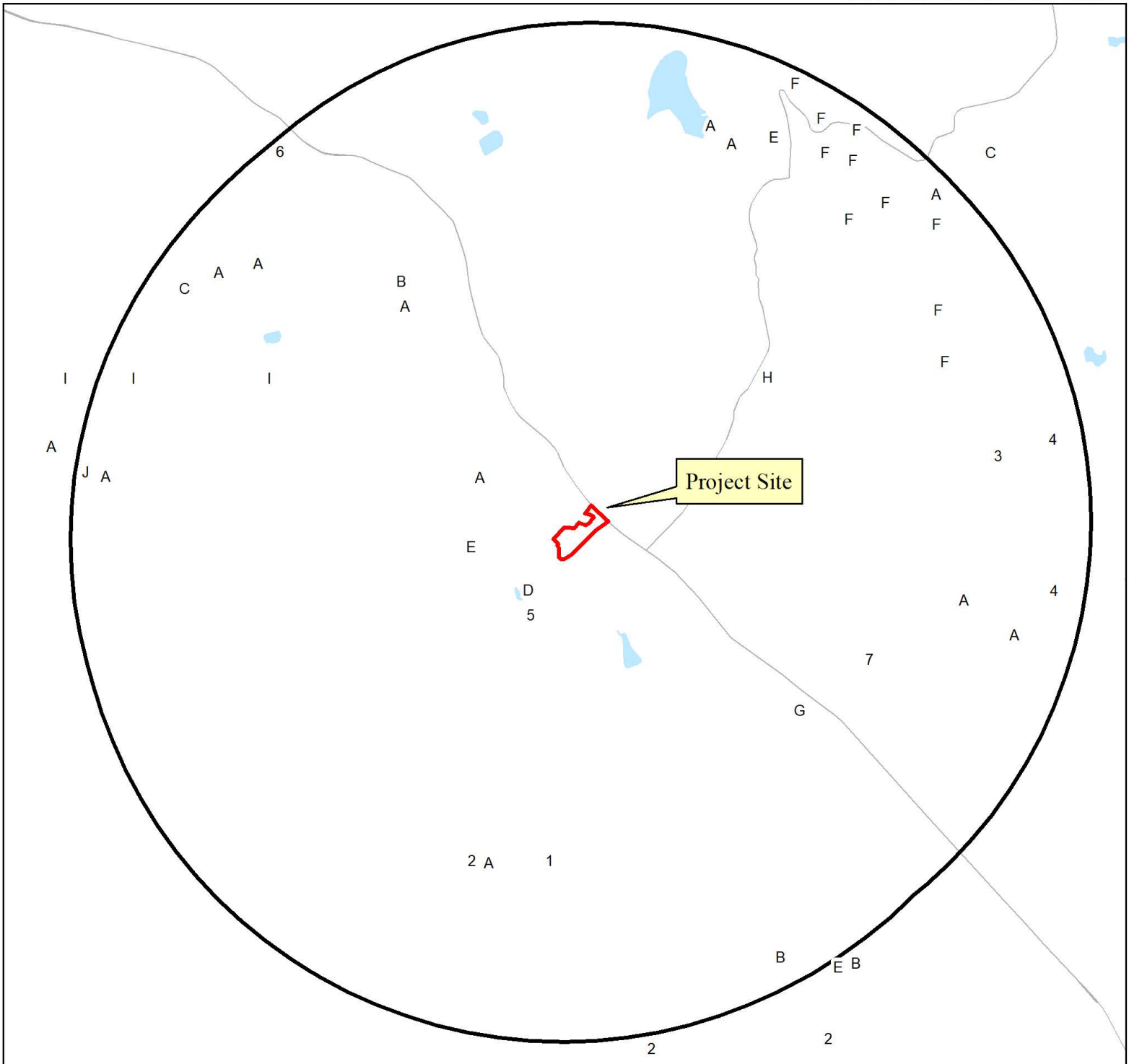
Figure 3. Aerial Photograph of the
Vineyard 29 Project Site
Saint Helena, California

Aerial Photograph Source: ESRI
Map Preparation Date: May 18, 2020



1	California giant salamander	7	Western pond turtle	F	*Ceanothus purpureus*
2	Foothill yellow-legged frog	A	*Amorpha californica var. napensis*	G	*Erigeron greenei*
3	Pallid bat	B	*Astragalus claranus*	H	*Leptosiphon jepsonii*
4	Purple martin	C	*Brodiaea leptandra*	I	*Plagiobothrys strictus*
5	Steelhead - central California coast DPS	D	*Ceanothus confusus*	J	*Sidalcea hickmanii ssp. napensis*
6	Townsend's big-eared bat	E	*Ceanothus divergens*		

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0 0.5 1 2 3 Miles

Known CNDDB Records for Special-Status Species
Within 3 Miles of the
Vineyard 29 Project Site

Map Preparation Date:
October 21, 2020
3-Mile Radius
Source: CDFW, California
Natural Diversity Data Base, 2020

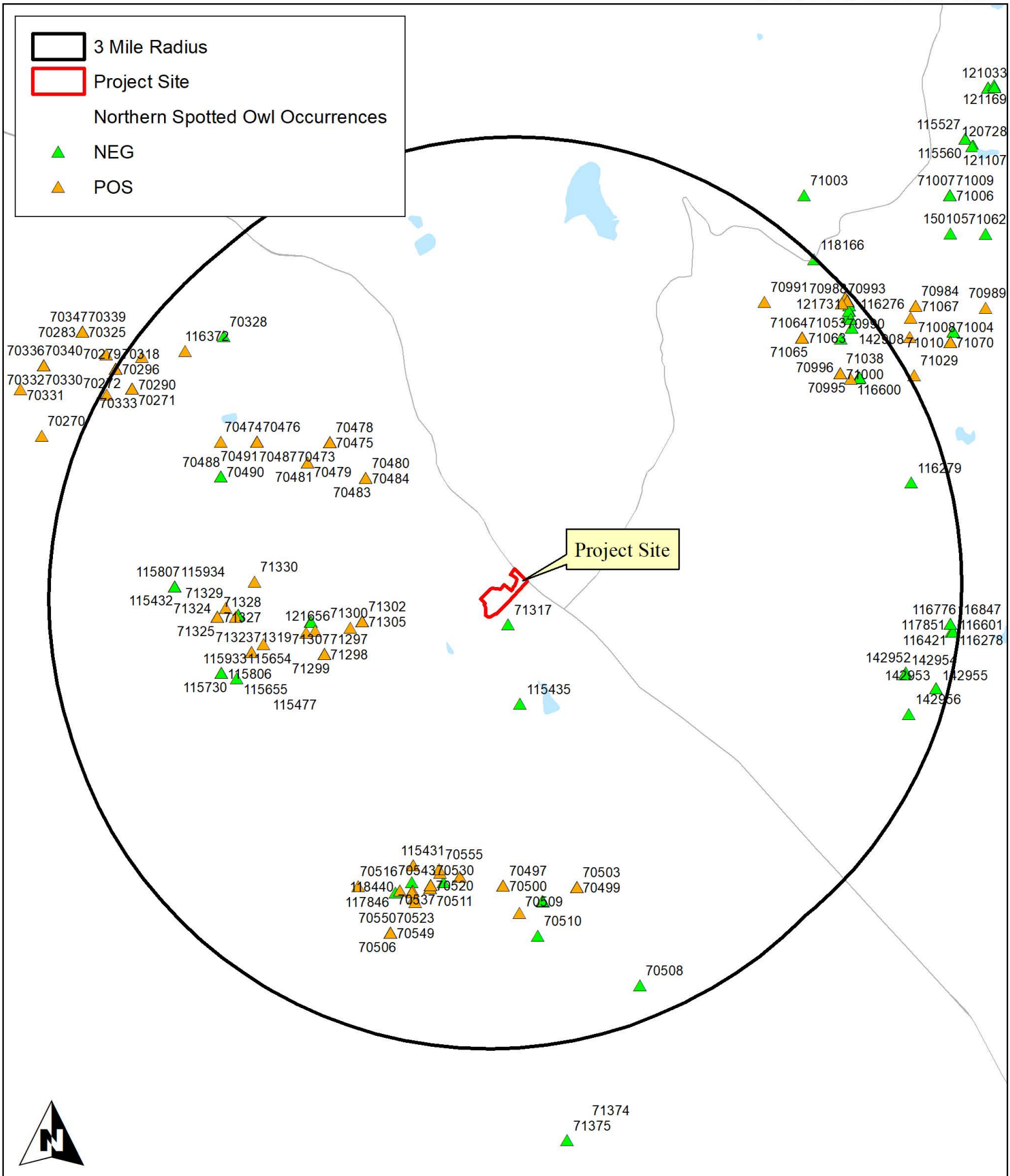

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Figure 5. Northern Spotted Owl in the Vicinity of the Vineyard 29 Project Site

Map Preparation Date:
March 12, 2021
3-Mile Radius
Source: CDFW, California Natural Diversity Data Base, 2021

Table 1

Special-Status Wildlife Known to Occur Within Three Miles of the Vineyard 29 Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Fish				
Steelhead - Central California Coast DPS *Oncorhynchus mykiss irideus*	Fed: FT State: - Other:	From Russian River south to Soquel Creek, and to Pajaro River. Also found in San Francisco & San Pablo Bay Basins. Spawn in clear, cool, well oxygenated streams greater than 18 cm deep.	Closest record for this species located 0.3 miles southwest of the project site (Occurrence No. 27). 2004	None. No suitable creek or river habitat onsite. No impact expected.
Amphibians				
California giant salamander *Dicamptodon ensatus*	Fed: State: CSC Other:	Inhabits wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages. Found from Santa Cruz County to Mendocino County in two to three isolated regions.	Closest record for this species located 1.7 miles south of the project site (Occurrence No. 186). 2016	None. No suitable habitat. Drainage onsite has intermittent flows and does not provide sufficient water for breeding/larval development habitat. No impact expected.
Foothill yellow-legged frog ** *Rana boylii*	Fed: -- State: CE Other:	Found in partially shaded, shallow streams with rocky substrates. Requires perenial pools or flowing water. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Closest record for this species located 1.7 miles south of the project site (Occurrence No. 780). 2014	None. No suitable habitat. Drainage onsite has intermittent flows and does not provide sufficient water for breeding/larval development habitat. No impact expected.
Reptiles				
Western pond turtle *Emys marmorata*	Fed: - State: CSC Other:	Uncommon to common in suitable aquatic habitat throughout CA, west of the Sierra-Cascade crest and absent from desert regions, except the Mojave River. Associated with permanent or nearly permanent water in a wide variety of habitat types.	Closest record for this species located 1.8 miles southeast of the project site (Occurrence No. 1501). 2015	None. No suitable aquatic habitat or upland nesting habitat onsite or near project site. No impact expected.
Birds				
Northern spotted owl *Strix occidentalis caurina*	Fed: FT State: CSC Other:	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	In 2003 surveys were conducted 0.1-mile south of the project site (Occurrence No. 1501) and had zero detections.	Low to none. Not detected during appropriately timed surveys. Woodland onsite prior to Glass Fire was not old growth or suitable habitat. No woodland remains. No owls detected. No impact expected.

Table 1

Special-Status Wildlife Known to Occur Within Three Miles of the Vineyard 29 Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Purple martin *Progne subis*	Fed: State: CSC Other:	Inhabits woodlands, low elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human made structures. May avoid heavily grazed areas.	Closest record for this species located 2.6 miles east of the project site (Occurrence No. 13). 1995	None. No habitat onsite. Glass Fire burned any potential habitat. No impact expected from driveway project regardless.
Mammals				
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Fed: -- State: CSC Other: -	Occurs in humid coastal regions of northern and central California. Roosts in limestone caves, lava tubes, mines, and buildings. Extremely sensitive to disturbance.	Closest record for this species located 2.7 miles northwest of the project site (Occurrence No. 622). 1955	None. Too much human activity to be expected onsite. No impact expected.
Pallid bat *Antrozous pallidus*	Fed: - State: CSC Other:	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in dry habitats with rocky areas for roosting. Roosts in caves, crevices, mines, and occasionally hollow trees. Night roosts in open areas such as porches and open buildings.	Closest record for this species located 1.6 miles east of the project site (Occurrence No. 225). 1954	Low to none. Oak trees along drainage provide marginal habitat. Regardless, driveway project would not impact any potential habitat. No impact expected.

***Status**

Federal:	State:	State:
FE - Federal Endangered	CE - California Endangered	WL - Watch List. Not protected pursuant to CEQA
FT - Federal Threatened	CT - California Threatened	S1 - Critically Imperiled
FPE - Federal Proposed Endangered	CR - California Rare	S2 - Imperiled
FPT - Federal Proposed Threatened	CC - California Candidate	Global:
FC - Federal Candidate	CSC - California Species of Special Concern	G2 - Imperiled
FPD - Federally Proposed for delisting	FP - Fully Protected	G4 - Apparently Secure

** This frog is listed as “endangered” in the Southern Sierra, central, and southern California coasts and “threatened” in the Northern Sierra and Feather River. This frog is not protected pursuant to CESA on the northern coast of California.