Biological Resources Assessment

21000 Santa Clara Road
Middletown, Lake County, California

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a biological resources assessment conducted at 21000 Santa Clara Road, Lake County, California. WRA, Inc. performed field surveys on October 22, 2018, March 14, April 28, and May 20, 2019.

The 13.33-acre Study Area is primarily composed of a mix of native and non-native grasslands. An intermittent stream and associated riparian scrub are located along the western edge of the Study Area.

Eight special-status plants and 20 special-status wildlife species were determined to have the potential to occur within the Study Area. No special-status plants were observed during seasonally timed surveys, therefore no impacts to special-status plants are expected. Recommendations are provided to avoid impacts to special-status wildlife.

Four potentially sensitive biological communities were observed within the Study Area. Recommendations have been developed and are provided herein to avoid or mitigate for impacts to these resources.

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LIST OF ACRONYMS

BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRRS	Biological Resources Reconnaissance Survey
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Lake
Corps	U.S. Army Corps of Engineers
CSRL	California Soils Resources Lab
CWA	Clean Water Act
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
MBTA	Migratory Bird Treaty Act
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
CRPR	California Rare Plant Ranks
RWQCB	Regional Water Quality Control Board
SFP	State Fully Protected Species
SSC	Species of Special Concern
SWRCB	State Water Resource Control Board
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

1.0 INTRODUCTION

1.1 Purpose of Assessment

In October 2018, and March, April, and May 2019, WRA, Inc. (WRA) performed an assessment of biological resources at 21000 Santa Clara Road (Study Area) in Middletown, Lake County, California (Figure 1, Appendix A). The purpose of the assessment is to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA).

A biological resources assessment (BRA) provides general information on the presence, or potential presence, of sensitive species and habitats. These assessments included focused surveys for special-status plant species determined to have potential to occur in the Study Area; however, focused or protocol-level surveys for wildlife were not included as part of the assessment. A stream and wetland assessment is also included as part of the survey; however, WRA conducted a formal wetland delineation in October 2018, the results of which are presented in a separate report. This biological assessment is based on information available at the time of the study and on-site conditions that were observed on the date(s) the site was visited.

This report describes the results of the site visit, which assessed the Study Area for (1) the presence of sensitive biological communities, (2) the potential for biological communities on the site to support special-status plant and wildlife species, and (3) the presence of any other sensitive natural resources protected by local, state, or federal laws and regulations. Special-status species observed during the site assessment were documented and their presence is discussed herein. Specific findings on the habitat suitability or presence of special-status species or sensitive habitats may require that protocol-level surveys or other studies be conducted; recommendations for additional studies are provided, if necessary.

Figures are included in Appendix A. A list of plants and wildlife observed during the site visits is included as Appendix B. An assessment of all of the special-status species documented from the general vicinity and their potential to occur in the Study Areas is included as Appendix C. Representative photographs of the Study Area are included as Appendix D.

2.0 REGULATORY BACKGROUND

This report is intended to facilitate conformance of future development with the standards outlined in the Lake County Code and General Plan. In addition to the requirements of Lake County, the future development may also be subject to several federal and state regulations designed to protect sensitive natural resources. As no project is proposed at this time, general requirements in the context of future development are addressed herein.

2.1 Federal and State Regulatory Setting

2.1.1 Sensitive Biological Communities

Herein, biological communities are understood to be those areas of a particular vegetation type, soil or bedrock formation, aquatic features, and/or other distinct phenomenon. Typically, biological communities have distinct boundaries that can be delineated based on changes in plant assemblages, soil types, and/or changes in surface/near-surface hydroperiod. The several regulations defining and protecting sensitive biological communities are discussed below.

Waters of the United States: The United States Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State: The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat: Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). "Riparian" is defined as "on, or pertaining to, the banks of a stream." Riparian vegetation is defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

The County of Lake has developed a "Waterway Combining District" zoning designation that applies to all perennial and intermittent streams, including adjacent wetlands and riparian vegetation (Section 37 of the Zoning Ordinance). The County defines a protected riparian zone as an area extending:

- 30 feet from the top of bank any perennial stream,
- 20 feet from the top of bank of any intermittent stream,
- 20 feet from the edge of any adjacent wetlands or the ordinary high water mark of other bodies of water, or
- To the outer extent of vegetation dominated by common riparian species such as Fremont cottonwood (*Populus fremontii*), white alder (*Alnus rhombifolia*), box elder (*Acer negundo*), dogwood (*Cornus* spp.), willow (*Salix* spp.), and big leaf maple (*Acer macrophyllum*) (this latter zone may extend beyond 30 feet).

The County restricts development and other activities within the riparian zone defined above, with a number of exemptions for agriculture, management, and other resource-dependent activities as outlined in Sections 37.5 and 37.6 of the zoning ordinance.[1]

Sensitive Natural Communities: Sensitive natural communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFG 2010, CDFW 2018b) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 or associations ranked “Y” considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G).

2.1.2 Special-Status Species

Plants: Special-status plants include species/taxa that have been listed as endangered or threatened, or are formal candidates for such listing, under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. A description of the CNPS Ranks is provided below in Table 1. No specific plant species are listed as sensitive within the Lake County General Plan.

Table 1. CNPS Ranks and Threat Codes

[1] Section 30-9 of the County Municipal Code provides different watercourse setbacks based on stream class and erosion hazard ratings. Based on conversations with the Lake County Planning Department, WRA believes that the watercourse setbacks provided in Article 37 of the Zoning Ordinance take precedence.

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

Wildlife: As with plants, special-status wildlife include species/taxa that have been listed or are formal candidates for such under ESA and/or CESA. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*)] that in some regards are similar to those provided by ESA. The CFGC designates some species as Fully Protected (SFP), which indicates that take of that species cannot be authorized through a state permit. Additionally, CDFW Species of Special Concern (species that face extirpation in California if current population and habitat trends continue) are given special consideration under CEQA, and are therefore considered special-status species. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA. The Lake County General Plan does not list specific wildlife species as sensitive.

Critical Habitat, Essential Fish Habitat, and Wildlife Corridors: Critical habitat is a term defined in the ESA as a specific and formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. Note that designated critical habitat areas that are currently unoccupied by the species but which are deemed necessary for the species' recovery are also protected by the prohibition against adverse modification.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) provides for conservation and management of fishery resources in the U.S. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term

survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g. eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

3.0 ENVIRONMENTAL SETTING

The Study Area is set in a single parcel of approximately 13 acres, located in southeast Lake County, approximately 0.29 mile northwest of the downtown Middletown. It is situated in the Collayomi Valley along Dry Creek (USGS 2018). Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The overall topography of the Study Area is flat. The elevation is approximately 1,100 feet above sea level. According to the *Soil Survey of Lake County* (USDA 1989), the Study Area is underlain by three soil mapping units: Kelsey Fine Sandy Loam, Talmage Very Gravelly Sandy Loam, and Xerofluvents, Very Gravelly. The parent soil series of these mapping units are summarized below.

Kelsey series: This series consists of very deep fine sandy loam that formed in alluvium from mixed rock sources situated on floodplains ranging from 900 to 1,600 feet. Soil pH is neutral (7.0) to slightly alkaline (7.4). These soils are listed as hydric in Lake County, but are well drained with very slow runoff and moderately rapid permeability and did not display any field indicators of hydric soils. Native vegetation includes annual grasses and forbs with scattered valley oaks (*Quercus lobata*) (USDA 1989, CSRL 2019).

Talmage Series: This series consist of very deep gravelly sandy loam formed in alluvium from mixed rock alluvial fans and plains at elevations ranging from 350 to 1,800 feet. Soil pH is slightly acidic (6.5) to neutral (7.0). These soils listed as hydric in Lake County, but are somewhat excessively drained with slow to medium runoff and moderately rapid permeability and did not display any field indicators of hydric soils. Native vegetation typically includes annual grasses and forbs with scattered oaks (*Quercus* spp.) (USDA 1989, CSRL 2019).

Xerofluvents Very Gravelly: This map unit consist of very deep, excessively drained soils formed from gravelly alluvium from mixed rock on narrow floodplains adjacent to stream channels. These soils are listed as hydric in Lake County, but have very slow runoff with rapid permeability and did not display any field indicators of hydric soils. Native vegetation typically includes vinegar weed (*Trichostema* spp.), foxtail fescue (*Festuca myuros*), and filaree (*Geranium* spp.) (USDA 1989).

3.2 Climate and Hydrology

The Study Area is located outside of the coastal fog belt of the San Francisco Bay Area, but annual rainfall is substantial in winter through early spring. The average monthly maximum temperature in Lakeport, approximately 25 miles to the northwest of Middletown, is 72.7 degrees Fahrenheit, while the average monthly minimum temperature is 41.4 degrees Fahrenheit. Precipitation predominantly falls as rainfall with an annual average of 44.1 inches in Middletown. Precipitation-bearing weather systems are predominantly from the west and south with the majority of rain falls between November and March, with a combined average of 36.95 inches (Western Regional Climate Center 2019).

The local watershed is Dry Creek-Putah Creek (HUC 12: 180201620303) and the regional watershed is Putah Creek (HUC 8: 18020162). One mapped blue-line stream, Dry Creek, is located within the Study Area (USGS 2018); this feature is also mapped as an intermittent stream in the National Wetlands Inventory (NWI 2019). No other wetland or stream features are mapped within the Study Area. The primary hydrologic sources are direct precipitation and consequent sheetflow, as well as channelized stream flow and occasional overbank flooding from Dry Creek.

3.3 Biota and Land Use

A majority of the Study Area was burned in the Valley Fire of September 2015; the fire intensity was at a level which charred trees and large shrubs, and cleared the herbaceous layer. However, the property was not developed and has not been developed in recent history (Historical Aerials 2019); evidence of discing for fire breaks was observed during the site visits. The Study Area is composed of grassland and oak woodland with riparian scrub associated with Dry Creek. Detailed plant community descriptions are included in Section 5.1 and all observed plant species are listed in Appendix B.

Currently the Study Area is undeveloped. Regional land-uses are primarily residential and commercial. Historically, the region was likely open rangeland consisting of numerous small ranches. There does not appear to be a history of intensive agriculture, quarrying, mining, or timbering (Historic Aerials 2019).

4.0 ASSESSMENT METHODS

Prior to the site visit, WRA biologists reviewed the following literature and performed database searches to assess the potential for sensitive natural communities (e.g., wetlands) and special-status species (e.g., endangered plants):

- *Soil Survey of Lake County, California* (USDA 1989)
- Middletown 7.5-minute quadrangle (USGS 2018)
- Aerial photographs (Google Earth 2019)
- Historical Aerial photographs (Historical Aerials 2019)
- National Wetlands Inventory (USFWS 2019a)
- California Natural Diversity Database (CNDDB, CDFW 2019a)
- California Native Plant Society Electronic Inventory (CNPS 2019a)
- Consortium of California Herbaria (CCH 2019)
- USFWS Information for Planning and Conservation Species Lists (USFWS 2018)
- CDFG publication *California Bird Species of Special Concern* (Shuford and Gardali 2008)
- CDFW publication *Fish Species of Special Concern in California* (Moyle et. al. 2015)
- USFWS publication *Birds of Conservation Concern* (2008)
- Western Bat Working Group Online Species Accounts (2018)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- *A Manual of California Vegetation Online* (CNPS 2019b)
- *California Natural Community List* (CDFW 2018b)

Database searches (i.e., CNDDB, CNPS) focused on the Middletown, Clearlake Highlands, Lower Lake, Wilson Valley, Whispering Pines, Jericho Valley, Mount St. Helena, Detert Reservoir, and

Aetna Springs USGS 7.5-minute quadrangles for special-status plants. The special-status wildlife evaluation was based on database searches for the entirety of Lake County. Figures 3 and 4 in Appendix A contain observations of special-status species documented within a five-mile radius of the Study Area.

Following the remote assessment, a botanist with 40-hour Corps wetland delineation training and a wildlife biologist traversed the entire Study Area on foot to document: (1) biological communities (e.g., terrestrial communities, aquatic resources), (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic resources (e.g., wetlands) are present, and (4) if special-status species are present.

4.1 Biological Communities

4.1.1 Terrestrial Natural Communities

The Study Area's terrestrial natural communities were evaluated to determine if such areas have the potential to support special-status plants or wildlife. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018b), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2019b). In some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description.

Vegetation alliances (natural communities) with a CDFW Rank of critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3) as well as associations ranked with a "Y", were evaluated as sensitive as part of this evaluation.[2]

4.1.2 Aquatic Natural Resources

Aquatic natural resources include Waters of the U.S., Waters of the State, and Streams Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, and CFGC, respectively. Lake County mandates setbacks from these aquatic resources, and therefore requires mapping of the outward extent of such features.

A formal wetland delineation was conducted during the site assessment. Results of the delineation are included in a separate report. In areas expressing superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales, WRA biologists performed sample points following the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

Streams potentially jurisdictional under the CWA and/or the CFGC were delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The ordinary high water mark was used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank was used to determine the extent of CFGC Section 1602. Streams with associated woody vegetation were assessed to determine if these areas would be considered

[2] Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018)

riparian habitat by the CDFW following *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994).

4.2 Special-Status Species

4.2.1 General Assessment

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database review. Database searches for known occurrences of special-status species focused on the 7.5-minute USGS quadrangles mentioned above for special-status plants and the entirety of Lake County for special-status wildlife.

An initial site visit was made on October 22, 2018 to evaluate the presence of suitable habitat for special-status species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Unlikely**. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential**. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present**. Species is observed on the site or has been recorded (i.e. CNDDB, other reports) on the site in the recent past.

If a more thorough assessment was deemed necessary, a focused or protocol-level assessment or survey was conducted or recommended as a future study. Methods for the assessments are described below. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2.

4.2.2 Special-Status Plants

WRA biologists conducted initial habitat assessments and floristic survey within the Study Area on October 22, 2018. The initial site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity in order to determine its potential to occur in the Study Area. Based on the October site assessment and database search results, additional site visits were conducted on March 14, April 28, and May 20, 2019 to conduct focused surveys for special-status plants. If a special-status species was observed during the site visits, its presence was recorded and discussed. Plants were identified to the taxonomic level necessary to determine whether or not they were sensitive using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2019). Plant names follow those of Jepson Flora Project (eFlora 2019), unless otherwise noted.

4.2.3 Special-Status Wildlife

WRA biologists conducted wildlife habitat assessments and general wildlife visual encounter surveys within the Study Area during the October 22 site visit. Targeted assessments (e.g., in-depth evaluation of ponds for aquatic organisms) and protocol-level surveys were deemed inapplicable at the time of the site visit, due to inappropriate timing between such a survey and any future development on the site.

4.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2018b) and the NMFS Essential Fish Habitat Mapper (NMFS 2018) were queried to determine if critical habitat for any species or EFH, respectively, occurs within the Study Area.

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010), habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2019a). Additionally, aerial imagery (Google 2019) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions.

5.0 ASSESSMENT RESULTS

5.1 Biological Communities

WRA observed six terrestrial biological communities and one aquatic biological community within the Study Area: developed, non-native grassland, popcorn flower fields, native grassland, blue oak woodland, mixed riparian woodland and perennial stream. Biological communities within the Study Area are illustrated in Figure 2 (Appendix A). The non-sensitive biological communities in the Study Area include non-native grasslands and developed areas. Sensitive biological communities within the Study Area are the valley oak woodland, mixed riparian woodland, popcorn flower patches, perennial stream and native grassland. Table 3 summarizes the acreage and sensitivity of the biological communities present within the Study Area.

Table 3. Biological Communities Present within the Study Area

Vegetation Alliance (CNPS 2019b)	Acres within Study Area
Non-Sensitive	
Developed (no vegetation alliance)	0.37
Non-native Annual Grassland – Wild Oat-Brome Grassland (*Avena* spp.-*Bromus* spp. Semi-Natural Herbaceous Stands)	11.18
Sensitive	
Valley Oak Woodland (*Quercus lobata* Woodland Alliance)	0.29

Native Grassland – Squirreltail Patches (*Elymus multisetus* Provisional Herbaceous Alliance)	0.83
Riparian Scrub – Arroyo Willow Thicket (*Salix lasiolepis* Shrubland Alliance)	0.25
Intermittent Stream (no vegetation alliance)	0.41 (227 linear feet)

5.1.1 Terrestrial Biological Communities

Non-Sensitive

Developed (no vegetation alliance). Rank: None. Developed portions of the Study Area are limited to a gravel access road leading from the terminus of Santa Clara Road along the eastern side of the site to a utility station located on the property to the north. The Study Area contains 0.37-acre of developed.

Non-native Annual Grassland – Wild Oat-Brome Grassland (*Avena* spp.-*Bromus* spp. Semi-Natural Herbaceous Stands). CDFW Rank: None: The Study Area contains 11.18 acres of non-native grassland. These grasslands are dominated by non-native grasses including wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), medusa head (*Elymus caput-medusae*), and rye (*Secale* sp.). Non-native forbs including vetch (*Vicia* spp.), rose clover (*Trifolium hirtum*), western filaree (*Erodium moschatum*), big heron bill (*Erodium botrys*), and yellow star thistle (*Centaurea solstitialis*) are characteristically present within the non-native grassland. This community is not considered sensitive by Lake County, CDFW, or any other regulatory entity.

Sensitive

Valley Oak Woodland (*Quercus lobata* Woodland Alliance). CDFW Rank: G3 S3: Valley oak woodlands typically occur in the outer and inner Coast Ranges, Transverse Ranges, Sierra Nevada foothills, and coast from southern Humboldt County south to San Diego County, situated on valley bottoms, lower slopes, and summit valleys underlain by alluvial or residual well-drained substrates with high organic content (CNPS 2019b). The Study Area contains 0.29 acre of valley oak woodland situated in the southwestern corner. The dominant tree is valley oak (*Quercus lobata*) with intermittent cover. The understory is similar in composition to the non-native grasslands. These woodlands are considered sensitive to CDFW as indicated by the S3 ranking. Additionally, oak woodland retention is required in the Lake County General Plan Open Space, Conservation, and Recreation Policy OSC-1.13. See Section 6.0 below for further discussion of recommendations.

Native Grassland – Squirreltail Patches (*Elymus multisetus* Provisional Herbaceous Alliance). CDFW Rank: G4 S4?: Squirreltail patches are typically located throughout the state under a wide range of ecological and topographical positions (CNPS 2019b). The Study Area contains 0.83 acre of native grassland dominated by squirreltail grass (*Elymus multisetus*). Within the Study Area, the native grassland patches contained 10 to 40 percent absolute cover of squirreltail grass mixed with California poppy (*Eschscholzia californica*), California plantago, tarweed (*Hemizonia congesta* ssp. *luzulifolia*.), q-tips, soft chess, and dense flower owl's clover (*Castilleja exserta*) as associated species. While the alliance is ranked "S4?" by CDFW, the association which best fits the squirreltail patch alliance *(Elymus multisetus-Eschscholzia californica-Plantago erecta*) is ranked "Y," therefore this native grassland type may be considered sensitive. See Section 6.0 below for further discussion of recommendations.

Riparian Scrub – Arroyo Willow Thicket (*Salix lasiolepis* Shrubland Alliance). CDFW Rank: G4 S4 and Section 1602 of CFGC: The Study Area contains 0.25 acres of riparian scrub, located along the banks of Dry Creek. The riparian scrub best fits the arroyo willow thicket (*Salix lasiolepis* Shrubland Alliance) (CNPS 2019b). Arroyo willow thickets typically occur on stream banks and slopes, slope seeps, and stringers along drainages throughout California (CNPS 2019b). The riparian scrub was burned during the Valley Fire and is growing in, forming woody thickets mixed with open herbaceous areas. The shrub canopy is dominated by arroyo willow, with sandbar willow (*Salix exigua*) and Oregon ash (*Fraxinus latifolia*) as co-dominants. The herbaceous areas are dominated by wetland species including tall cyperus (*Cyperus eragrostis*), iris-leaved rush (*Juncus xiphioides*), fiddleleaf dock (*Rumex pulcher*), annual beard grass (*Polypogon monspeliensis*), and western goldenrod (*Euthamia occidentalis*). This community is associated with Dry Creek and therefore considered to be riparian vegetation. Riparian vegetation is within CDFW jurisdiction under Section 1600 of the CFGC. Additionally, Lake County requires riparian setbacks as outlined in Policy OSC-1.4 of the County General Plan; see Section 6.0 below for further discussion of recommendations.

5.1.2 Aquatic Natural Resources

Sensitive

Intermittent Stream. Section 404/401 of CWA and Section 1602 of CFGC. A 227-linear foot (0.41 acre) portion of Dry Creek is located along the western boundary of the Study Area. Dry Creek is a tributary of Putah Creek, located approximately 0.39 mile northeast of the Study Area. Dry Creek is an intermittent stream with water going subsurface during the driest portions of the year. The stream was dry during the October site visit; however, water was flowing during the spring site visits. The stream bottom is unvegetated, consisting of mixed gravel and fine sediment. The slopes of the bank are somewhat gradual, with evidence of scour to the top of the ordinary high water mark (OHWM). The banks are vegetated with herbaceous species and arroyo willow (*Salix lasiolepis*), sandbar willow (*Salix exigua*) and Oregon ash (*Fraxinus latifolia*) in the shrub canopy. This stream is sensitive as it is within the jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA and within CDFW jurisdiction under Section 1602 of the CFGC. Additionally, Lake County requires stream setbacks as outlined in Sec 30-9 of the County Code and Article 37; see Section 6.0 below for further discussion of recommendations.

5.2 Special-Status Species

A total of 116 plant species and 22 wildlife species were identified within the Study Area during the site visits. A list of all observed species can be found in Appendix B. Figures 3 and 4 in Appendix A includes figures depicting known occurrences of special-status plants and wildlife within a 5-mile radius of the Study Area. A table summarizing the potential for special-status species to occur within the Study Area is included in Appendix C.

5.2.1 Special-Status Plant Species

Based upon a review of the resource databases listed in Section 4.0, 110 special-status plant species have been documented in the vicinity of the Study Area. Figure 3 in Appendix A shows the subset of those species documented within 5 miles of the Study Area. Eight of these species were originally considered to have the potential to occur in the Study Area based on habitat conditions observed during the October 2018 site visit. The remaining species documented from

the greater vicinity of the Study Area were determined to be unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, seeps; vernal pools) necessary to support the special-status plant species are not present in the Study Area;
- Edaphic (soil) conditions (e.g., volcanics, serpentine, rocky barrens) necessary to support the special-status plant species are not present in the Study Area;
- Topographic conditions (e.g., slopes, montane conditions) necessary to support the special-status plant species are not present in the Study Area;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Study Area;
- Associated natural communities (e.g., interior chaparral, coniferous forest) necessary to support the special-status plant species are not present in the Study Area;
- The Study Area is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species.

Based on the type and quality of natural communities present within the Study Area, eight special-status plants were determined to have potential to occur. Each species is discussed below and summarized in Appendix C. Focused special-status plant surveys were conducted during the March, April, and May site visits; however, no special-status plants were observed and none are anticipated to occur.

Special-Status Plants with Potential to Occur within the Study Area

Bent-flowered fiddleneck (*Amsinckia lunaris*); CRPR 1B. Moderate Potential. Not Observed. Bent-flowered fiddleneck is an annual forb in the forget-me-not family (Boraginaceae) that blooms from March to June. It typically occurs in open areas within cismontane woodland, valley and foothill grassland, and coastal bluff scrub habitat often underlain by clay substrate at elevations ranging from 10 to 1625 feet (CDFW 2019a, CNPS 2019a). Known associated species include coast live oak, blue oak (*Quercus douglasii*), California juniper (*Juniperus californicus*), buck brush (*Ceanothus cuneatus*), poison oak, miniature lupine (*Lupinus bicolor*), foothill lotus (*Acmispon brachycarpus*), calf lotus (*A. wrangelianus*), fringe pod (*Thysanocarpus curvipes*), q-tips (*Micropus californicus*), cream cups (*Platystemon californicus*), slender tarweed (*Madia gracilis*), common yarrow (*Achillea millefolium*), goldenback fern (*Pentagramma triangularis*), one-sided bluegrass (*Poa secunda*), woolly sunflower (*Eriophyllum lanatum*), and slender wild oat (*Avena barbata*) (CDFW 2019a).

There are eight CNDDB (CDFW 2019a) records of this species in the greater vicinity of the Study Area. The nearest documented occurrence is from May 1953, on Highway 29 approximately two miles northeast of the Study Area (CDFW 2019a). Bent-flowered fiddleneck was originally determined to have a moderate potential to occur in the grassland and open woodland habitat within the Study Area due to the presence of suitable substrates and associated species in woodland and grassland habitat. However, this species was not observed during the focused surveys in March and April and is considered absent.

Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*); CRPR 1B. Moderate Potential. Not Observed. Congested-headed hayfield tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from April to November. It typically occurs in grassy areas and fallow fields in coastal scrub, and valley and foothill grassland at elevations ranging from 65 to 1,840 feet (CDFW 2019a, CNPS 2019a). Known associated species include coast live oak, white hyacinth (*Triteleia hyacinthina*), Italian rye grass (*Festuca perennis*), little rattlesnake

grass (*Briza minor*), pennyroyal (*Mentha pulegium*), and spiny-fruited buttercup (*Ranunculus muricatus*) (CDFW 2019a).

There is one CNDDB (CDFW 2019a) record of this species in the greater vicinity of the Study Area. This documented occurrence is from 1980 along Highway 29, approximately two miles northeast of the Study Area (CDFW 2019a). Congested-headed hayfield tarplant was originally determined to have a moderate potential to occur in the grassland areas of the Study Area due to the presence of associated species, suitable substrate and the observation of hayfield tarplant (*Hemizonia* sp.) during the October site visit. However, this species was not observed during the focused survey in May and is considered absent.

Colusa layia (*Layia septentrionalis*); CRPR 1B. Moderate Potential. Not Observed. Colusa layia is an annual forb in the sunflower family (Asteraceae) that blooms from April through May. It typically occurs in openings and herbaceous areas underlain by serpentine substrates within chaparral, cismontane woodland, and valley and foothill grassland habitats at elevations ranging from 330 to 3,595 feet (CNPS 2019a, CDFW 2019a). Known associated species include blue oak (*Quercus douglasii*), white-leaf manzanita (*Arctostaphylos manzanita*), wooly sunflower (*Eriophyllum lanatum*), one-sided blue grass (*Poa secunda*), few flowered Collinsia (*Collinsia sparsiflora*), soft chess (*Bromus hordeaceus*), miners lettuce (*Claytonia perfoliata*), cream cups (*Platystemon californicus*), bluehead gilia (*Gilia capitata*), and purple Chinese houses (*Collinsia heterophylla*).

There are 16 CNDDB (CDFW 2019) records of this species in the greater vicinity of the Study Area. The nearest documented occurrence in the vicinity of the Study Area is from 1932 in Cobb Valley, approximately 8 miles northwest of the Study Area (CDFW 2019a). Colusa layia was originally determined to have a moderate potential to occur in the grassland and woodland areas. However, this species was not observed during the focused survey in April and May and is considered absent.

Bristly leptosiphon (*Leptosiphon acicularis*); CRPR 4. Moderate Potential. Not Observed. Bristly leptosiphon is an annual forb in the phlox family (Polemoniaceae) that blooms from April to July. It typically occurs in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland habitat at elevations ranging from 175 to 4875 feet (CNPS 2019a). Known associated species include bird's-eyes (*Gilia tricolor*), true babystars (*Leptosiphon bicolor*), redstem filaree (*Erodium cicutarium*), purple needlegrass (*Stipa pulchra*), European hair grass (*Aira caryophyllea*), short pod lotus (*Acmispon brachycarpus*), Spanish lotus (*Acmispon americanus*), and miniature lupine (*Lupinus bicolor*) (CCH 2019).

Bristly leptosiphon is known from the Clearlake Highlands, Middletown, and Kelseyville USGS quads (CNPS 2019a). There are seven CCH (2019) records within the vicinity of the Study Area. The nearest documented occurrence is from April 1933 in Middletown. Bristly leptosiphon was originally determined to have a moderate potential to occur in the Study Area due to the presence of suitable habitat, and the relative location of the nearest documented occurrence. However, this species was not observed during the focused survey in April and May and is considered absent.

Jepson's Leptosiphon (*Leptosiphon jepsonii*); CRPR 1B. Moderate Potential. Not Observed. Jepson's Leptosiphon is an annual herb in the phlox family (Polemoniaceae) that blooms from March to May. It typically occurs in open to partially shaded areas on volcanic or serpentine substrate in chaparral and cismontane woodland habitat at elevations ranging from 325 to 1640 feet (CDFW 2019a, CNPS 2019a). Known associated species include California bay laurel (*Umbellularia californica*), coast live oak (*Quercus agrifolia*), toyon (*Heteromeles*

arbutifolia), purple needlegrass (*Stipa pulchra*), California oat grass (*Danthonia californica*), and non-native annual grasses (CDFW 2019a).

There are nine CNDDB (CDFW 2019a) records of this species in the greater vicinity of the Study Area. The nearest documented occurrence is from 1936 in Collayomi Valley (CDFW 2019a). Jepson's leptosiphon was originally determined to have a moderate potential to occur in the oak woodland habitat within the Study Area. However, this species was not observed during the focused survey in March, April or May and is considered absent.

Cobb Mountain lupine (*Lupinus sericatus*). CRPR 1B. High Potential. Not Observed. Cobb Mountain lupine is a perennial forb in the pea family (Fabaceae) that blooms from March to June. It typically occurs in openings in wooded slopes underlain by gravelly, often serpentine, substrate in stands of knobcone pine in chaparral, cismontane woodland, and lower montane coniferous forest at elevations ranging from 890 to 4960 feet (CDFW 2019a, CNPS 2019a). Known associated species include knobcone pine (*Pinus attenuata*), ponderosa pine (*Pinus ponderosa*), California black oak (*Quercus kelloggii*), leather oak (*Q. durata*), Pacific madrone (*Arbutus menziesii*), chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), manzanita (*Arctostaphylos* spp.), poison oak (*Toxicodendron diversilobum*), woodland tarweed (*Anisocarpus madioides*), forest sedge (*Carex multicaulis*), Sonoma sage (*Salvia sonomensis*), and woolly sunflower (*Eriophyllum lanatum*) (CDFW 2019a).

There are 24 CNDDB (CDFW 2019a) records of this species within the greater vicinity of the Study Area. The nearest documented occurrence is from 1976 located near Putah Creek, approximately 4 miles northwest of the Study Area (CDFW 2019a). Cobb Mountain lupine was originally determined to have a high potential to occur in the Study Area due to the presence of associated species and suitable habitat, suitable substrate, and the relative location of documented occurrences. However, this species was not observed during the focused survey in March, April, and May and is considered absent.

Jepson's navarretia (*Navarretia jepsonii*); CRPR 4. Moderate Potential. Not Observed. Jepson's navarretia is an annual herb in the phlox (Polemoniaceae) family that blooms from April through June. The species typically occurs in transitional zones between cismontane woodland, chaparral, and valley and foothill annual grassland habitats on clay soils (often serpentine) at elevations ranging from 550 to 2,800 feet (CNPS 2019a). Known associated species are not provided in the databases.

The nearest previously documented occurrence of this species in the vicinity of the Study Area is from 1937 in Middletown, with several others along Highway 29 northeast of the Study Area (CCH 2019). Jepson's navarretia was originally determined to have a moderate potential to occur in the grasslands or edge of woodlands. However, this species was not observed during the focused survey in April and May and is considered absent.

Keck's checkerbloom (*Sidalcea keckii*); FE, Rank 1B. Moderate Potential. Not Observed. Keck's checkerbloom is an annual herb in the mallow (Malvaceae) family that blooms from April through June. It typically occurs on exposed serpentine clays in cismontane woodland or non-native valley and foothill grassland habitats at elevations ranging from 250 to 2,200 feet (CNPS 2019a). Known associated species includes grey pine (*Pinus sabiniana*), blue oak (*Quercus douglasii*), tarplant (*Holocarpha* spp.) Italian ryegrass (*Festuca perennis*), soft chess *(Bromus hordeaceus*), and blowives (*Achyrachaena mollis*).

There is one CNDDB (CDFW 2019a) record of this species within the greater vicinity of the Study Area. The nearest documented occurrence in the vicinity of the Study Area is from May 2002 near

Pocock Creek, approximately 12 miles east of the Study Area (CDFW 2019a). This species was originally determined to have moderate potential to occur in the grasslands due to presence of associated species. However, this species was not observed during the focused survey in April or May and is considered absent.

5.2.2 Special-Status Wildlife Species

Based upon a review of the resources databases listed in Section 4.0, it was determined that more than 50 special-status wildlife species have been documented in one or more of the 7.5-minute quadrangles in the vicinity of the Study Area. Figure 4 in Appendix A shows the subset of those species that occur within 5 miles of the Property. Appendix C summarizes the potential for each of these species to occur within the Study Area. During the site visit, no special-status wildlife species were observed within the Study Area; however, 20 special-status wildlife species were determined to have a moderate or high potential to occur within the Study Area based on the type and conditions of habitats observed there. The Study Area does not contain designated critical habitat for any species. The remaining species were determined to be unlikely or have no potential to occur in the Study Area for one or more of the following reasons:

- The Study Area is outside of the known or historical range of the species;
- The Study Area lacks specific habitat requirements (i.e. marsh, old growth conifers, cliffs, mines etc.),
- There are barriers to dispersal that make it unlikely for the species to occur on-site.

Special-status wildlife species determined to be potentially present based on the type and condition of habitats present within the Study Area are listed below; the preferred habitat(s) of each species is summarized in Appendix C. Table 4 lists the special-status wildlife species determined to have potential to occur within the Study Area. A list of all wildlife species observed during the site assessments is included as Appendix B.

Table 4. Special-Status Wildlife Species with the Potential to Occur within the Study Area

Scientific Name	Common Name	Conservation Status*
Species with High Potential to Occur		
Birds		
Selasphorus sasin	Allen's hummingbird	BCC
Baeolophus inornatus	oak titmouse	BCC
Elanus leucurus	white-tailed kite	CFP
Species with Moderate Potential to Occur		
Mammals		
Lasiurus blossevillii	western red bat	SSC, WBWG High
Myotis evotis	long-eared myotis	WBWG Medium

Scientific Name	Common Name	Conservation Status*
Lasiurus cinereus	hoary bat	WBWG Medium
Myotis thysanodes	fringed myotis	WBWG High
Antrozous pallidus	pallid bat	SSC, WBWG
Birds		
Progne subis	purple martin	SSC
Setophaga (Dendroica) petechia brewsteri	yellow warbler	SSC, BCC
Lanius ludovicianus	loggerhead shrike	SSC, BCC
Melanerpes lewis	Lewis' woodpecker	BCC
Picoides nuttallii	Nuttall's woodpecker	BCC
Chamaea fasciata	wrentit	BCC
Asio otus	long-eared owl	SSC
Spinus (= Carduelis) lawrencei	Lawrence's goldfinch	BCC
Contopus cooperi	olive-sided flycatcher	SSC, BCC
Icteria virens	yellow-breasted chat	SSC
Reptiles		
Emmys marmorata	western pond turtle	SSC
Amphibians		
Rana boylii	foothill yellow-legged frog	SSC, SC

*Key to Conservation Status:

BCC USFWS Bird of Conservation Concern
CFP California Fully Protected Species
SC State Candidate
SE State Endangered
SSC CDFW Species of Special Concern
WBWG Western Bat Working Group

Mammals

During the site visit on October 22, 2018, no special-status mammals were observed. The only special-status mammals with moderate potential to occur in the Study Area are bats, and no special-status mammals have a high potential to occur. Habitat for bats is marginal, with only a few suitable trees being present that could support roosting. Measures to reduce impacts to special-status bats to a less than significant level are described in Section 6 of this report.

Birds

During the site visit on October 22, 2018, no special-status birds were observed. However, the site does contain habitat that could support nesting for several special-status species, as well as species that receive protections under the California Fish and Game Code and Migratory Bird Treaty Act. Additionally, one California Fully Protected Species, white-tailed kite, could also nest in the Study Area or near enough to the Study Area that nest avoidance buffers for that species could impact future development on the site. Measures to reduce impacts to nesting birds are discussed further in Section 6 of this report.

Amphibians and Reptiles

During the site visit on October 22, 2018, no amphibians were observed. Habitat for special-status amphibians in the Study Area is limited to Dry Creek, which is immediately adjacent to the property, to the west. During the site visit, Dry Creek was entirely dry where it runs along the property boundary and for at least several hundred feet upstream and downstream. No lentic habitats that would support any special-status amphibians were identified during the site visit.

Despite Dry Creek being intermittent, it does have potential to support metamorphosed foothill yellow-legged frog (*Rana boylii*; FYLF), a candidate for listing under the CESA, for most of the year based on aerial imagery. In addition, the stream may be able to support reproduction for the species in most or some years because it contains water beyond August (when tadpoles typically metamorphose). However, the majority of the habitat in the Study Area is a long pool with steep sides at the time of year when breeding occurs, so most of it would not be suitable for FYLF egg laying. Other areas could not be assessed in terms of their capacity to support breeding. That said, this species has been documented up- and downstream of the Study Area (CDFW 2019), so it is possible that metamorphosed FYLF would pass through the Study Area, even if only briefly in transit to or from breeding sites.

Given their protected status under the CESA and potential for presence in or near the Study Area, any impacts to FYLF would need to be addressed in the CEQA process. Impacts to FYLF are reduced significantly if no impacts to the riparian zone occur, because FYLF is a semi-aquatic species and is unlikely to be found far from water. Due to its potential for presence within the Study Area, the CEQA lead agency may request that surveys and/or avoidance measures be implemented to ensure that no take of FYLF occur as a result of the project. Surveys typically consist of a minimum of two discrete surveys during suitable conditions within the Study Area and areas 500 feet up- and downstream. If no FYLF are found during these surveys it is likely that minimal avoidance measures would be recommended. Measures to avoid FYLF are described in Section 6 of this document.

During the site visit on October 22, 2018, no special-status reptiles were observed. The only special-status reptile assessed as having a moderate potential to occur is western pond turtle, and no reptiles were determined to have a high potential to occur. Pond turtles have been documented near the Study Area (CDFW 2019a) and the section of Dry Creek adjacent to the Study Area is suitable for the species for most of the year. Some areas in the riparian zone may be suitable for nesting by the species. Western pond turtle would be unlikely to nest above the stream terraces associated with Dry Creek and is unlikely to traverse areas greater than 300 feet from Dry Creek. If work is to occur within 300 feet of the stream, measures to reduce impacts to western pond turtle to less than significant levels may be required by the CEQA lead agency. These measures are discussed in Section 6.

5.3 Wildlife Corridors

In addition to the special-status wildlife that may occur, non-special-status wildlife species occur and may use portions of the Study Area as a migration corridor. Uncultivated land can be used by a variety of native species to move to various territories seasonally and throughout their life cycle. Within the Study Area, some habitats including, but not limited to the stream corridor associated with Dry Creek may facilitate wildlife movement. Additionally, reservoirs and ponds within close proximity to the Study Area are anticipated to attract native wildlife species. Therefore, portions of the Study Area may occur within one or more wildlife migration corridors.

6.0 RECOMMENDATIONS

6.1 Sensitive Biological Communities

6.1.1 Valley Oak Woodland

The Study Area contains 0.29 acre of valley oak woodland. Valley oak woodlands are considered sensitive by CDFW, and the Lake County General Plan Policy OSC 1.13 requires that oak woodland be maintained and/or improved to the extent feasible to provide for oak woodland and wildlife habitat; however no specific requirements are provided. The oak woodlands should be preserved to the maximum extent practical. If preservation is not practical, mitigation plantings may be necessary if impacts are determined to be significant.

6.1.2 Stream

A portion of Dry Creek is present along the western boundary of the Study Area. Any development should avoid the stream to the extent practical and apply the appropriate stream setback as outlined in the Lake County Code Section 30-9 (Watercourses and Drainage) and/or Article 37 (Regulations for the Waterway or "WW" Combining District). For intermittent streams, a minimum 20 foot setback from the stream TOB is required. If work is to be conducted within the top of bank or ordinary high water mark of Dry Creek, then 404/401 permits from the Corps, RWQCB, and/or a Lake and Streambed Alteration Agreement (LSAA) from CDFW should be acquired.

6.1.3 Riparian Scrub

The Study Area contains 0.25 acre of riparian vegetation. Any development should avoid the riparian vegetation to the extent practical. No specific setbacks are required by Lake County regulations. However, if work is to be conducted within the riparian habitat, then a 401 permit from RWQCB and an LSAA from CDFW should be acquired.

6.1.4 Native Grassland

The Study Area contains 0.83 acre of native grassland. The native grassland is considered sensitive by the CDFW, therefore impacts require consideration under CEQA. Native grassland should be avoided to the extent practical. If avoidance is not practical, mitigation for impacts may be necessary if impacts are determined to be significant.

6.2 Special-Status Species

6.2.1 Special-Status Plants

The Study Area was determined to have the potential to support eight special-status plants. However, no special-status plants were observed during focused surveys conducted in March, April and May 2019. Therefore, it was determined that no special-status plants are likely to occur and no avoidance measures are recommended.

6.2.2 Special-Status Wildlife

Several special-status species were determined to have moderate to high potential to occur, or were observed within the Study Area. One frog, FYLF, a state listed species, and one bird, white-tailed kite, is a California Fully Protected Species. The Study Area is not located within Critical Habitat as designated by USFWS or NMFS. Lake Berryessa forms a total barrier to anadromous fish including steelhead and Chinook salmon, and as such no listed fish species would occur within the reach of Dry Creek that runs along the Study Area. The following recommendations and potential constraints are provided based on the potential for special-status species and their habitat to occur within the Study Area. Where applicable, species with similar requirements and guidance are grouped together.

Mammals

Bats

No bats were observed within the Study Area during the site visit. There is moderate potential for some bat species to occur within the oak trees and riparian woodland within the Study Area. Direct impacts to roosting special-status bat species could occur due to the removal or modification of large living trees (DBH >12 inches) and snags. The destruction or injury of special-status bats or loss of a maternity roost would constitute a potentially significant impact under CEQA and is a violation of the CFGC. Indirect impacts to maternity roosting and/or roosting bat species may include roost abandonment due to noise, increased nighttime lighting, and/or other human disturbances during construction and would also constitute a potentially significant impact under CEQA. The following programmatic-level measures are recommended to avoid impacts to roosting bats during future development of the site:

- Pre-construction survey(s) for bat roosts should be conducted by a qualified biologist in large tees (DBH >12 inches), broadleaf trees in riparian forest habitat, buildings, bridges, and cliffs/rocky outcroppings within 100 feet of a planned work areas. Surveys should occur at least 14 days prior to the start of work, and one or more surveys may be needed for the biologist to evaluate if potential roost habitat occurs and then to determine the type (i.e. maternity or non-maternity) and status (i.e. active or inactive) of the roost. If an active maternity or special-status bat roost is found, and is proposed to be removed or directly impacted as a result of project activities, then consultation with the CDFW will be required.

- Large trees (DBH >12 inches) to be removed should be allowed to lay on the ground for one night to allow any undetected roosting bats to leave the tree before it is chipped or taken offsite.

Birds

Raptors

Raptor nests, including white-tailed kite nests, are protected by the MBTA and CFGC. Protective exclusion buffers around active raptor nests can vary greatly and may extend up to 0.5 mile for some listed species. While project-specific impacts may require additional measures, the following programmatic-level measures are recommended to avoid impacts to raptors:

- Prior to starting construction activities during the nesting season, generally defined as February 1 through August 31, targeted surveys for active raptor nests should be conducted by a qualified biologist. An active nest contains eggs or young.

- For construction activities planned within 0.25 mile of a documented white-tailed kite nest, pre-construction surveys should be conducted in accordance with the most current guidance available from the USFWS and CDFW.

- If a raptor nest containing eggs or young is determined to be present within or adjacent to the work area, then a protective buffer should be established and no project work should occur within the buffered area until the chicks have fledged and no longer require parental support for survival or the nest has been determined to be inactive. Buffer size should be determined by the biologist based on species, nest location, planned disturbance footprint, and presence of any visual or auditory buffers.

Nesting Birds

In addition to white-tailed kite, the site assessment determined that special-status passerine bird species (e.g., Allen's hummingbird, Nuttall's woodpecker, oak titmouse) have a high potential to occur in the Study Area. Several other special-status bird species were determined to have a moderate potential to occur within the Study Area. A variety of native bird species protected under the MBTA as well as the CFCG may also use the Study Area for nesting.

Avoidance of nesting birds is considered a general biological resources "best practice" in California and avoids potential enforcement action by CDFW. Nesting bird pre-construction survey obligations are a common component of various permits and authorizations, including CEQA documents and even local grading permits, and may be deemed applicable to project activities within the Study Area.

Initial vegetation removal, clearing, grubbing activities, along with tree removal and demolition of structures, have the potential to affect nesting migratory birds. Adverse effects to nesting birds covered by the MBTA and the CFGC—including active nests, eggs, and young—would constitute a potential impact that may occur as a result of these activities. While project-specific impacts may require additional measures, the following programmatic-level measures are recommended to avoid impacts to nesting birds:

- If vegetation removal, demolition of buildings or work on bridges, or initial ground disturbance activity occur during the nesting season, defined as February 1 through August 31, then a pre-construction nesting bird survey within the work area should be completed by a qualified biologist no more than 14 days prior to the start of work.

- If active nests (nests with eggs and/or chicks) are observed during the pre-construction survey, project activities should cease within a protective buffer established around the nest by the biologist and work should only resume within the protective buffer after the young have fledged the nest or the nest otherwise becomes inactive. Buffer size should be determined by the biologist based on species, nest location, planned disturbance footprint, and presence of any visual or auditory buffers.

Reptiles and Amphibians

This assessment determined that western pond turtle (WPT) and foothill yellow-legged frog (FYLF) have a moderate potential to occur in the Study Area. Direct impacts to stream features, floodplains, wetlands, ponds, and reservoirs could result in the loss of suitable habitat or potential take of amphibian and reptile species. WRA recommends the development of project-specific avoidance and minimization measures. Work taking place within any river, stream, or lake in the Study Area would require a CDFW-issued Lake or Streambed Alteration Agreement (LSAA). Measures pertaining to aquatic species would be dictated by the LSAA. Measures that may be included in an LSAA are discussed below.

FYLF

Work within streams, riparian areas, and along streamside corridors could impact FYLF by disrupting migratory movements, rearing, or breeding and could result in injury or mortality to individuals. Additional impacts may occur from the removal or altering of habitat, such as those associated with the loss of cover or altering localized water flow. Actions that increase the use of riverine habitats, especially during the breeding and larval rearing stages for FYLF could impact the species. Although there is no time of year when complete avoidance of FYLF is possible, if working in an area where the species is known to occur, there are periods when encountering the species is less likely (CDFW 2018d). Conducting work outside the typical FYLF breeding season and after the onset of autumnal rains, away from wetted features allows for the greatest opportunity for avoidance (CDFW 2018d). While project-specific impacts may require additional measures, the following measures are recommended to avoid impacts to FYLF:

- Activities within 100 feet of the top of bank where FYLF has been documented within the Study Area, or its associated riparian areas, should avoid the FYLF breeding season (March 1 to June 30), and to the extent possible, should be limited to the dry season (July 1 to October 31). No work should occur within 72 hours of rains occurring in October or November when FYLF are likely to be making overland movements.

- Pre-construction surveys should be conducted by a qualified biologist within 5 days of the start of initial project work planned within 100 feet of wetted streams in the Study Area. These surveys should cover at least 500 feet upstream and 500 feet downstream of the work area and should investigate for the presence of all life stages (adults, subadults, tadpoles, or egg masses). If FYLF are observed, the biologist should provide measures to avoid directly impacting the species based on the planned work; such measures may include a protective no-work buffer, exclusion fencing, monitoring, and/or coordination with the CDFW.

FYLF is currently a candidate species for listing under CESA and as such is afforded the protections conveyed by CESA, including protection from "take" without a permit. The clade that occurs in the Project Area has been evaluated as not warranting listing under CESA at this time by the CDFW Staff Review and the CDFG commission has voted to adopt this finding. While the species is technically still a candidate for listing, the ending of candidacy for this clade is imminent and is not likely to result in listing under CESA. However, this clade will remain a species of special concern and will continue to be considered during CEQA processes and permitting processes administered by CDFW. While the implementation of the above described measures should minimize impacts to the species, there is a potential for incidental take of FYLF to occur during work activities in and adjacent to FYLF habitat and this take would still require an ITP, if it occurs during the candidacy period.

WPT

This assessment determined that western pond turtle (WPT) could be present in the Study Area during most parts of the year. Direct impacts to stream features and floodplains could result in the loss of suitable habitat or potential take of pond turtles. Direct mortality, loss of aquatic habitat, or loss of nesting habitat may be considered potentially significant impacts under CEQA. While project-specific impacts may require additional measures, the following measures are recommended to avoid impacts to WPT:

- To the extent possible, initial ground disturbance, vegetation clearing, and associated project activities within 300 feet of Dry Creek are recommended to occur during the dry season (July 1 – October 31).

- Within 14 days prior to the start of work, pre-construction surveys for WPT should occur within 300 feet of Dry Creek. If WPT is observed, the biologist should provide measures to avoid directly impacting the species based on the planned work; such measures may include a protective no-work buffer, exclusion fencing, monitoring, or coordination with the CDFW.

6.3 Wildlife Corridors

This assessment determined that portions of the Study Area may facilitate wildlife movement and may be considered a wildlife corridor. Changes in land use, such as the conversion of raw land to agriculture or installation of buildings and fencing, and increased presence of human disturbance, can diminish or eliminate qualities that make an area a corridor for native species. Under CEQA, project impacts to wildlife corridors are assessed and evaluated.

The Study Area is positioned in an agricultural and urban setting. Development nearby consists of low-density housing with increasingly dense residential and commercial areas to the east. The remaining areas are in current or historic agriculture. None of the areas immediately near the Study Area are entirely natural. The Study Area is likely to serve as a corridor and habitat for a number of species commonly associated with edge habitats such as deer, raccoons, etc. Large mammalian predators would likely avoid the Study Area due to the relatively high density of development. Dry Creek and its riparian zone, along the western edge of the Study Area, is the most likely corridor for transiting wildlife such as frogs and turtles. Some mammals such as otters may use it for movement while it is inundated, and terrestrial animals such as coyotes may use its adjacent riparian edge year round or use the channel itself when it is dry. Provided that a riparian buffer is maintained around the stream, it is unlikely that project activities would alter the Dry Creek's capacity to serve as a corridor from its current condition.

7.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.). 2012. The Jepson Manual: Vascular Plants of California, 2nd Edition. University of California Press, Berkeley, CA. 1568 pp.

Calflora website (Calflora). 2019. Website: Information on wild California plants for conservation, education, and appreciation. Available at: http://www.calflora.org/. Accessed: February 2019

California Department of Fish and Game (CDFG). 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607. Environmental Service Division, California Department of Fish and Game, Sacramento, CA.

(CDFG). 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Game, Sacramento, CA. September 2010.

California Department of Fish and Wildlife (CDFW). 2019a. California Natural Diversity Database (CNDDB), Wildlife and Habitat Data Analysis Branch. Sacramento, CA. Accessed: October 2018 and February 2019.

(CDFW). 2018b. California Natural Community List. Vegetation Classification and Mapping Program, California Department of Fish and Game, Sacramento, CA. October 15, 2018.

(CDFW). 2018d. California Fish Passage Assessment Database. Available at: https://map.dfg.ca.gov/metadata/ds0069.html. Accessed: October 2018.

(CDFW) and California Department of Transportation (CalTrans). 2010. California Essential Habitat Connectivity Project. Available at: https://nrm.dfg.ca.gov/. Accessed: October 2018.

(CNPS). 2019a. Online Inventory of Rare, Threatened, and Endangered Plants of California. Available at: http://www.rareplants.cnps.org/. Accessed: October 2018 and February 2019.

(CNPS). 2019b. A Manual of California Vegetation Online. Available at: http://vegetation.cnps.org/. Accessed: February 2019.

California Soil Resources Lab (CSRL). 2019. Online Soil Survey. Available at: http://casoilresource.lawr.ucdavis.edu/drupal/ Accessed: February 2019.

Consortium of California Herbaria (CCH). 2019. Data provided by the participants of the Consortium of California Herbaria. Available at: http://ucjeps.berkeley.edu/consortium. Accessed: February 2019.

Jepson Herbarium. Jepson Flora Project (eFlora). 2019. Jepson eFlora Online at: http://ucjeps.berkeley.edu/IJM.html. Accessed: October 2019.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Google Earth. 2018. Middletown, CA area; Image dates: 1993-2018. Accessed: February 2019.

Historical Aerials. 2019. Available at: http://historicalaerials.com. Accessed: February 2019.

Holland, R. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, CA. 156 pp.

National Marine Fisheries Service (NMFS). 2018. Essential Fish Habitat Mapper. Available at: https://www.habitat.noaa.gov/protection/efh/efhmapper/. Accessed: October 2018.

Shuford, W.D. and Gardali, T., eds. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Thomson, R.C., A.N. Wright, and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. Co-published by the California Department of Fish and Wildlife and University of California Press. Oakland, California.

U.S. Army Corps of Engineers (Corps). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Corps of Engineers, Engineer Research and Development Center, Vicksburg, MS. September 28, 2008.

U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS). 1989. Soil Survey of Lake County, California. In cooperation with the University of California Agricultural Experiment Station.

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2019. Climate Information for Lake County in the State of California. Available at: http://www.wcc.nrcs.usda.gov/. Accessed: March 2019

U.S. Fish and Wildlife Service (USFWS). 2019a. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/index.html. Accessed: September 2018 and February 2019.

U.S. Fish and Wildlife Service (USFWS). 2018. List of Federal Endangered and Threatened Species that Occur in Napa County, California. Available at: https://ecos.fws.gov/ipac/. Accessed: October 2018.

U.S. Geological Survey (USGS). 2018. Middletown, California 7.5-minute quadrangle topographic map.

Western Bat Working Group (WBWG). 2018. Species Accounts. Available at: http://www.wbwg.org/speciesinfo/species_accounts/species_accounts.html. Accessed: October 2018.

Western Regional Climate Center (WRCC). 2019. Western U.S. Climate Summaries-NOAA COOP Stations. Available online at: https://wrcc.dri.edu/Climate/west_coop_summaries.php

APPENDIX A

FIGURES

APPENDIX B

PLANT AND WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

APPENDIX C

POTENTIAL FOR SPECIAL-STATUS PLANT AND WILDLIFE SPECIES TO OCCUR WITHIN THE STUDY AREA

APPENDIX D

REPRESENTATIVE PHOTOGRAPHS