Biological Resources Assessment Report

Lakeport Drive-In
52 Soda Bay Road
Unincorporated Lake County

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Assessment (BRA) at the Lakeport Drive-In located at 52 Soda Bay Road in unincorporated Lake County, California. WRA, Inc. performed field surveys in January and April 2008, September 2016, and August 29, 2019. The Study Area is composed of oak woodland, non-native grasslands, stream, and wetland.

Four sensitive land cover types are present within the Study Area, including valley oak woodland, wetlands, drainage channel, and stream (Manning Creek). Recommendations for avoidance of impacts to these sensitive land cover types is provided. Additionally, the eastern portion of the Study Area is located within FEMA flood zones.

No special-status plants have been observed during previous site visits within the Study Area. A focused special-status plant survey was conducted concurrently with the August site assessment and no special-status plants were observed. However, nine additional species are determined to have the potential to occur within the Study Area, and database searches indicate two have documented occurrences within the Study Area. Protocol-level or focused special-status plant surveys should be conducted in April, May and July to determine presence or absence.

Three special-status wildlife species White-tailed Kite, Tricolored Blackbird and Clear Lake Hitch have been documented to occur within the Study Area during previous field visits and assessments. One additional species, Sacramento Perch, has a high potential to occur within the Study Area. Five additional species, Pallid Bat, Silver-haired Bat, Purple Martin, Western Pond Turtle and Bell's Sage Sparrow all have a moderate potential to occur within the Study Area.

Recommendations have been developed and provided herein to avoid impacts to these resources.

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LIST OF ABBREVIATIONS & ACRONYMS

BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRA	Biological Resources Assessment
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
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
County	County of Lake
Corps	U.S. Army Corps of Engineers
CRLF	California Red-legged Frog
CSRL	California Soils Resources Lab
CWA	Clean Water Act
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	(Federal) Endangered Species Act
Magnusen-Stevens Act	Magnuson-Stevens Fishery Conservation & Management
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
Rank	California Rare Plant Ranks
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SFP	State Fully Protected Species
SWRCB	State Water Resource Control Board
TOB	Top of Bank
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

On August 29, 2019, WRA, Inc. (WRA) performed an updated assessment of biological resources at Lakeport Cinema property at 52 Soda Bay Road (Study Area) in unincorporated Lake County, California (Figure 1). The purpose of this study was to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA). The property is partially developed with a cinema and drive-in movie theater. Of the remainder of the property, a portion of the site was filled prior to 2008, while the remainder of the property retains a more natural character. The surrounding areas is developed with light industry and warehouses or agriculture.

The Study Area was previously assessed on January 14 and April 24, 2008 and September 23, 2016. This update includes 2019 database searches for special-status plants and wildlife and a review and re-assessment of land cover types, including the extent of seasonal wetlands. This assessment is based on on-site conditions that were observed during the August site visit and is intended to update previous findings as reported in *Biological Resources Assessment Lakeport Cinema and Drive-In Property* (WRA 2008) and *Delineation of Areas Meeting Wetland and Other Waters Criteria* (WRA 2008).

This report describes the results of the site visit, which assessed the Study Area for (1) the presence and extent of sensitive land cover types, (2) the potential for land cover types on the site to support special-status plant and wildlife species, and (3) the presence and extent of any other sensitive natural resources protected by local, state, or federal laws and regulations.

This assessment contains the results of a focused protocol-level survey for August blooming special-status plant species in the Study Area; however, protocol-level surveys for wildlife are not included as part of the survey. A wetland delineation was conducted concurrently with this assessment, results of which are incorporated into this report.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Federal and State Regulatory Setting

2.1.1 Sensitive Land Cover Types

Land cover types are herein defined as those areas of a particular vegetation type, soil or bedrock formation, aquatic features, and/or other distinct phenomenon. Typically, land cover types have identifiable boundaries that can be delineated based on changes in plant assemblages, soil or rock types, soil surface or near-surface hydroperiod, anthropogenic or natural disturbance, topography, elevation, etc. Many land cover types are not considered sensitive or otherwise protected under the environmental regulations discussed here. However, these land cover types typically provide essential ecological and biological functions for plants and wildlife, including,

frequently, special-status species. Those land cover types that are considered or protected under one or more environmental regulations 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.

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 2018a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2019a). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2019) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 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 taxa that have been listed as endangered or threatened, or are formal candidates for such listing, under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). The California Native Plant Protection Act (CNPPA) lists 64 "rare" or "endangered" and prevents "take", with few exceptions, of these species. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (CRPR) 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.

Wildlife: As with plants, special-status wildlife includes 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.

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.

Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

2.2 Lake County Regulatory Setting

In addition to the state and federal policies outlined above, the Lake County Code addresses additional issues that may pertain to the Study Area including work within the floodplain. Chapter 25 of the Lake County Code pertains to Floodplain Management and outlines the process through which development of such lands must adhere, including permitting and project review.

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]

[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.

The County General Plan (Lake County 2008) contains policies to provide guidance for resource protection. The Open Space, Conservation, and Recreation chapter contains several polices for protection of oak woodland, wetlands, and riparian vegetation. However, no specific requirements (i.e. mitigation ratios, buffer requirements, etc.) are provided.

3.0 ENVIRONMENTAL SETTING

The approximately 25.5-acre Study Area is located 2.5 miles southeast of Lakeport town center. It is 380-feet east of Highway 29, and 550 feet east of the intersection of Highway 175 and Highway 29. The shores of Clear Lake are located approximately 0.71 miles north; Manning Creek, located along the eastern boundary of the Study Area flows into Clear Lake.

3.1 Topography and Soils

The overall topography of the Study Area is nearly flat with elevations ranging from approximately 1,337 to 1,344 feet above sea level. According to the *Soil Survey of Lake County* (USDA 1982), the Study Area is underlain by three soil mapping units: Henneke-Monatara Complex, 8 to 15 percent slopes, Cole variant clay loam, calcareous substratum, Still loam, stratified substratum The parent soil series of all the Study Area's mapping units are summarized below.

Henneke Series: This series consists of shallow gravelly loam weathered from ultramafic serpentine rock situated on hills and slopes at elevations ranging from 500 to 4,000 feet. These soils are not considered hydric, are well drained with medium to very high runoff and moderately slow to slow permeability (CSRL 2019). Native vegetation is scattered oaks (*Quercus* spp.), grey pine *(Pinus sabiniana*), and chaparral. Land is typically not developed. (CSRL 2019).

Montara Series: This series is shallow clay loam formed in material weathered from serpentinite rock situated on uplands and ridge tops at elevations ranging from 100 to 3,000 feet. Soils are moderately alkaline (pH 8.0) throughout the profile. These soils are not considered hydric, are well drained with medium and high runoff and moderately slow permeability. Native vegetation is grasslands. Typical land use is recreation (CSRL 2019).

Cole Series: This series consists of very deep clay loam formed in alluvium from mixed sources situated on stream terraces, flood plains, and alluvial fans at elevations ranging from 50 to 1,500 feet. Soils are moderately alkaline (pH8.0) throughout the profile. These soils are considered hydric, are somewhat poorly drained with slow runoff and slow permeability (USDA NRCS 2019, CSRL 2019). Native vegetation is oak savannah. Typical land use is crop and pasture (CSRL 2019).

Still Series: This series consists of deep clay loam formed in alluvial material from sedimentary rock situated on flood plains and alluvial fans at elevations ranging from 600 to 2,000 feet. Soil pH is slightly acidic (pH 6.5) in the upper 25 inches to moderately alkaline (pH8.0) below. These soils are considered hydric, are well drained with slow to medium runoff and moderately slow permeability (USDA NRCS 2019, CSRL 2019). Native vegetation is oak savannah. Typical land use includes crop production (CSRL 2019).

3.2 Climate and Hydrology

The Study Area is located outside the fog incursion zone. The average monthly maximum temperature of Lakeport is 72.7 degrees Fahrenheit, while the average monthly minimum temperature is 41.4 degrees Fahrenheit. Predominantly, precipitation falls as rainfall with an annual average of 28.4 inches. 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 23.2 inches (WCC 2019).

The local watershed is Manning Creek (HUC 12: 180201160306) and the regional watershed is Cache Creek (HUC 8: 180220116). There is one mapped USGS blue-line stream (Manning Creek) on the eastern boundary of the Study Area (USGS 2018). No other aquatic features are mapped (NWI 2019, CARI 2019). The primary hydrologic sources are direct precipitation and consequent sheet flows and channelized flow. Detailed descriptions of aquatic resources are in Section 5.1 below.

3.3 Land Cover and Land Use

The property is partially developed with a cinema and drive-in movie theater. The drive-in was developed prior to 1977 (Historic Aerials 2019). Of the remainder of the property, a portion of the site was filled historically while the remainder of the property retains a more natural character. The surrounding areas are developed with light industry and warehouses or used for agriculture. Detailed plant community descriptions are included in Section 5.1 below, and all observed plants are included in Appendix C.

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 1982)
- Lakeport 7.5-minute quadrangle (USGS 2018)
- Contemporary aerial photographs (Google Earth 2019)
- Historical aerial photographs (Historical Aerials 2019)
- National Wetlands Inventory (USFWS 2019a)
- California Aquatic Resources Inventory (CARI 2019)
- California Natural Diversity Database (CNDDB, CDFW 2019a)
- California Native Plant Society Electronic Inventory (CNPS 2019a)
- Consortium of California Herbaria (CCH 2019)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2019b)
- *eBird* Online Database (eBird 2019)
- CDFW Publication, *California Bird Species of Special Concern in California* (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)

- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *A Manual of California Vegetation Online* (CNPS 2019b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- *California Natural Community List* (CDFW 2018a)

Database searches (i.e., CNDDB, CNPS) focused on the Cow Mountain, Upper Lake, Bartlett Mountain, Purdys Garden, Lakeport, Lucerne, Hopland, Highland Springs, and Kelseyville USGS 7.5-minute quadrangles for special-status plants and wildlife. Appendix A contains observations of special-status species documented within a five-mile radius of the Study Area.

Following the remote assessment, two botanists with 40-hour Corps wetland delineation training traversed the entire Study Area on foot to document: (1) land cover types (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 natural communities (e.g., wetlands) are present, and (4) if special-status species are present[2].

4.1 Land Cover Types

4.1.1 Terrestrial Land Cover Types

The Study Area's terrestrial land cover types 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 2018a), *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 1 through 3 (globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3), were evaluated as sensitive as part of this evaluation.[3]

4.1.2 Aquatic Resources

Aquatic 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 concurrently during this assessment. While no data forms are included within this report, WRA biologists took sample point data following the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional*

[2] Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 4.2 if the site assessment would constitute a formal or protocol-level species survey.
[3] Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018)

Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Corps 2008).

Streams potentially jurisdictional under the CWA and/or the CFGC are noted on a site; they are delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The ordinary high water mark is used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank would be used to determine the extent of CFGC Section 1602 and Section 401 jurisdiction. Streams with associated woody vegetation were assessed to determine if these areas would be considered 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 special-status wildlife.

A site visit was conducted on August 29, 2019 to evaluate the presence of suitable habitat for special-status plant species, while a remote assessment was conducted for wildlife. 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 targeted or protocol-level assessment or survey was 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

To determine the presence or absence of special-status plant species, a focused surveys was conducted within the Study Area on August 29, 2019. The survey corresponds to the period sufficient to observe and identify those special-status plants determined to have the potential to occur and are identifiable during the month of August. The field survey was conducted by botanists familiar with the flora of Lake and surrounding counties. The survey protocol follows those described by resource experts and agencies (CNPS 2001, CDFW 2018b, USFWS 1996). Plants were identified using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2019), to the taxonomic level necessary to determine whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2019), unless otherwise noted.

4.2.3 Special-status Wildlife

The general assessment for special-status wildlife determined that some special status species have the potential to occur in the Study Area. Targeted assessments (e.g., in-depth evaluation of ponds for aquatic organisms) and protocol-level surveys were deemed inapplicable or infeasible at the time of the site visit, due to inappropriate timing between such a survey and Project initiation.

4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2019b) and the NMFS Essential Fish Habitat Mapper (NMFS 2019) 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 Land Cover Types

WRA observed seven land cover types within the Study Area: developed, non-native grassland, valley oak woodland, forested wetland, seasonal wetland, drainage channel, and intermittent stream. Land cover types within the Study Area are illustrated in Figure A-2 (Appendix A). The non-sensitive land cover types in the Study Area include developed and non-native grasslands, while the remaining are considered sensitive communities.

5.1.1 Terrestrial Land Cover Types

Non-sensitive

Developed Land. No CDFW Rank. Approximately one-third of the Study Area is developed with a drive-in movie theater, five-plex cinema, and associated parking areas. These areas support limited landscaping species, small strips of ruderal (non-native) herbaceous vegetation and areas with man-made stormwater conveyance systems including culverts and swales.

Non-native Grassland. Various vegetation alliances. No CDFW Rank. The non-native grassland within the Study Area fits several vegetation alliances, including wild oats grassland (*Avena* spp. Herbaceous Semi-Natural Alliance), Harding grass swards (*Phalaris aquatica* Herbaceous Semi-Natural Alliance), and medusa head grassland (*Elymus caput-medusae* [*Taeniatherum caput-medusae*] Herbaceous Semi-Natural Alliance) (CNPS 2019a). Areas of non-native grassland are dominated by non-native grasses; however native plants are characteristically present. Plant species observed within the non-native grasslands include wild oats, Harding grass, medusa head, yellow star thistle (*Centaurea solstitialis*), rough cat's ear (*Hypochaeris radicata*), wire lettuce (*Lactuca* spp.), filaree (*Erodium* sp.), curly dock (*Rumex crispus*), bull thistle (*Cirsium vulgare*), Italian ryegrass (*Festuca perennis*), field vetch (*Vicia villosa*), garden vetch (*Vicia sativa*), common madia (*Madia elegans*), and congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *luzulifolia*). Areas dominated by non-native grassland are located on recently deposited fill material.

Sensitive

Valley Oak Woodland (*Quercus lobata* Woodland Alliance). CDFW Rank: G3 S3. Valley oak woodlands occur on the Sierra Nevada foothills, central valley and coast ranges from northern Humboldt County south to Santa Barbara County (CNPS 2019b). These woodlands are typically situated on valley bottoms, lower slopes and summit valleys on alluvial or residual soils (CNPS 2019b).

Within the Study Area, valley oak woodland is dominant along the eastern portion, and is associated with Manning Creek, where it forms a relatively dense riparian forest ranging from 100 to 150 feet wide. Other species observed in this habitat included native trees such as willows (*Salix* sp.), big leaf maple (*Acer macrophyllum*), and California bay laurel (*Umbellularia californica*). Understory brush consisting of blackberry (*Rubus* sp.), sedge (*Carex* spp.), and spreading rush (*Juncus patens*). Groundcover is limited throughout most of this habitat except for isolated patches of the non-native invasive periwinkle (*Vinca major*) which forms a dense, clambering carpet when present. This land cover type is considered sensitive under CEQA as it is ranked S3 by CDFW. Additionally, this land cover type is considered sensitive as it is riparian and therefore within the jurisdiction of CDFW under Section 1602 of the CFGC.

5.1.2 Aquatic Resources

Seasonal Wetland – Italian rye grass fields (*Festuca perennis* [*Lolium perenne*] Semi-Natural Alliance). Hardings grass swards (*Phalaris aquatica* Semi-Natural Herbaceous Alliance). CDFW Rank: None; CWA 404/401. Seasonal wetlands are known from a variety of topographic positions and soil types where surface waters collect and flows are reduced, or subsurface waters approach the soil surface as a rising water table or seep. One large and several small seasonal wetlands are present within the Study Area. Vegetation within each of the seasonal wetlands best fits the Italian ryegrass fields or Harding's grass swards vegetation alliance.

Significant areas of the unfilled portions of the site support seasonal wetlands dominated by herbaceous vegetation including Harding's grass, Italian ryegrass, iris-leafed rush (*Juncus xiphioides*), pennyroyal (*Mentha pulegium*), curly dock (*Rumex crispus*), sedge (*Carex* spp.), cocklebur (*Xanthium strumarium*), Jepson's button celery (*Eryngium aristulatum* var. *aristulatum*) and tall flatsedge (*Cyperus eragrostis*). Since 2008, the wetland indicator status of Harding's grass has changed from facultative (FAC) to facultative-upland (FACU). This change indicates Harding's grass typically occurs in uplands but may also occur in wetlands. Therefore, these areas of the seasonal wetland were re-assessed. The Harding's grass within the mapped 2008 seasonal wetland exhibited physical characteristics which indicated morphological adaptations to saturated conditions as described in the 1987 Manual and 2008 Regional Supplement. Based on this observation, the region of the 2008 seasonal wetland dominated by Harding's grass is still considered seasonal wetland.

Isolated stands of valley oaks (*Quercus lobata*) and poison oak (*Toxicodendron diversilobum*) dotted the open area. While most of the areas determined to be seasonal wetlands are rather large and continuous, isolated depressions are present throughout the eastern Study Area, however these depressions do not constitute vernal pool habitat.

Indicators of hydric soils observed include dark matrix soils with prominent redoximorphic features (i.e., rust) (Corps 2008); however soils are problematic as indicators are not prevalent which may be caused by soil color and/or soil chemistry. Indicators of wetland hydrology include algal matting (Corps. 2008).

Because all three wetland parameters (vegetation, soil, and hydrology) are evidenced, those areas mapped as wetland in the Study Area would be considered jurisdictional under the CWA and therefore considered sensitive under CEQA and Lake County and subject to necessary permits and setback requirements.

Forested Wetland – CWA Section 404/401; CFGC Section 1602. Forested wetlands are similar to seasonal wetlands and are dominated by trees rather than herbs. Within the Study Area, forested wetlands are dominated by valley oak, Oregon ash (*Fraxinus latifolia*), and willow (*Salix* spp.) and best fits the valley oak woodland described above. The understory cover is various from bare to continuous. Typical species include California rose (*Rosa californica*), Himalayan blackberry (*Rubus armeniacus*), juncus (*Juncus* spp.). Indicators of hydric soils observed include depleted matrix with prominent redoximorphic concentrations along pore linings and in the matrix. While indicators of hydrology include water-stained leaves and sediment deposits.

Because all three wetland parameters are evidenced, those areas mapped as forested wetland in the Study Area would be considered jurisdictional under the CWA and therefore considered sensitive under CEQA and Lake County and are subject to necessary permits and setback requirements.

Drainage Channel-CWA Section 404/401. A drainage channel is located in the central portion of the Study Area traveling along the south and east edges of the movie theater. A clear bed and bank was not continuous and portions are covered by non-native grassland and Himalayan blackberry. The drainage channel begins at a culvert which channels water from the parking lot and surrounding areas and eventually connects to the large seasonal wetland. While water likely only flows during significant rainfall events along the channel, the channel conveys water to a jurisdictional feature, and therefore it is potentially jurisdictional under the CWA and therefore

considered sensitive under CEQA and Lake County and permits to conduct work within the feature is necessary.

Intermittent Stream-CWA Section 404/401; CFGC Section 1602. The Study Area contains Manning Creek, an intermittent stream, along the eastern border. This stream appears on the Lakeport 7.5-minute quadrangle (USGS 2015) and in NWI (USFWS 2019a). No water was present within the stream during the August 2019 site visit. However, the stream flows to Clear Lake, located approximately 0.70 miles to the north. The banks of all of this stream are deep, steep, and primarily of fine sediments (clays, loams), while the bed contains a mix of sorted sands, gravels, and cobbles. The top-of-bank (TOB) width of the stream is 10 to 15 feet. The vegetation associated with the stream is valley oak woodland described above.

This stream is jurisdictional under Section 404/401 of the CWA and Section 1602 of the CFGC; therefore, it is considered a sensitive aquatic resource and permits to conduct work within the feature is necessary. Additionally, the stream and associated riparian vegetation is within Resource Conservation Land Use of the Lake County General Plan; however no policy associated with this land use type is given.

100-Year Floodplain

Although not an actual biological community, the eastern portion of the Study Area is within the 100-year flood zone as mapped by FEMA (Figure 3). The 100-year flood zone is an area with increased flood potential that typically requires review that is more stringent prior to development. Chapter 25 of the Lake County Code pertains to Floodplain Management and outlines the process through which development of such lands must adhere, including permitting and project review.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Based upon a review of the resource databases listed in Section 4.0, 50 special-status plant species have been documented in the vicinity of the Study Area, with two located within the Study Area. Appendix B summarizes the potential for each of these species to occur in the Study Area. Figure 4 depicts locations of documented occurrences within 5-miles of the Study Area. Sixteen special-status plants have the potential to occur in the Study Area. The remaining 34 special-status plants documented from the greater vicinity are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, perennial) necessary to support the special-status plant species are not present in the Study Area;
- Edaphic (soil) conditions (e.g., volcanic tuff, heavy clay) necessary to support the special-status plant species are not present in the Study Area;
- Topographic conditions (e.g., north-facing slope, montane) 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, vernal pools) 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;
- Land use history and contemporary management (e.g., absence of mowing or grazing) has degraded the localized habitat necessary to support the special-status plant species.

WRA biologists conducted a focused special-status plant survey concurrently with the August site visit. Two of the 16 special-status plants are identifiable in August, however no special-status plants were observed, while the remaining 14 species have the potential to occur within the Study Area and additional surveys are necessary. All species with the potential to occur are listed below and described in Appendix B. No special-status plant species were observed during previous surveys in 2008 and 2016. Two special-status plants, Colusa layia (*Layia septentrionalis*) and serpentine cryptantha (*Cryptantha dissita*), have documented occurrences within the Study Area (CNDDB 2019a).

Special-status Plants with Potential to Occur in the Study Area

Bent-flowered fiddleneck (*Amsinckia lunaris*). CRPR 1B. High Potential. 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). Bent-flowered fiddleneck has a high potential to occur in the Study Area due to presence of grassland habitat with known associated species; additionally, documented occurrences are within a 5-mile radius.

Brewer's milk-vetch (*Astragalus breweri*). CRPR 4. Moderate Potential. Brewer's milk-vetch is an annual herb in the pea (Fabaceae) family that blooms from April through June. It typically occurs in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands on serpentine or volcanic soils, sometimes in open gravelly locations, at elevations ranging from 2,700 to 2,190 feet (CNPS 2019a). Known associated species include Oregon oak (*Quercus garryana*) (CCH 2019). Brewer's milk-vetch has moderate potential to occur due to grasslands underlain by gravelly soils.

Mt. Saint Helena morning glory (*Calystegia collina* ssp. *oxyphylla*). CRPR 4. Moderate Potential. Mt. St. Helena morning glory is a perennial herb in the morning glory (Convolvulaceae) family that blooms April through June. It typically occurs in chaparral, coniferous forest and valley and foothill grasslands underlain by serpentine soils at elevations ranging from 900 to 3030 feet (CNPS 2019a). Known associated species include scrub oak (*Quercus durata*), toyon (*Heteromeles arbutifolia*), manzanita (*Arctostaphylos* spp.), grey pine (*Pinus sabiniana*), yerba santa (*Eriodictyon californica*), and needlegrass (*Stipa* sp.) (CCH 2019). Mt. St. Helena morning glory has a moderate potential to occur in the Study Area due to the presence of grassland habitat underlain by serpentine soils.

Bristly sedge (*Carex comosa*). CRPR 2B. Moderate Potential (Not Observed). Bristly sedge is a perennial graminoid in the sedge family (Cyperaceae) that blooms from May to September. It typically occurs on lake margins and wet places in freshwater to brackish marsh and swamp habitat at elevations ranging from 0 to 2050 feet (CDFW 2019a, CNPS 2019a). Known associated species include Fremont cottonwood (*Populus fremontii*), black willow (*Salix gooddingii*), Himalaya blackberry (*Rubus armeniacus*), bur reed (*Sparganium* sp.), western cow bane (*Oxypolis occidentalis*), broadleaf cattail (*Typha latifolia*), sticktight (*Bidens frondosa*), water horehound (*Lycopus americanus*), barnyard grass (*Echinochloa crus-galli*), pennyroyal (*Mentha pulegium*), water smartweed (*Persicaria punctata*), and hardstem tule (*Schoenoplectus acutus*) (CDFW 2019a). The site visit was conducted in August, during which time this species is identifiable through flower and fruit features. No individuals were observed.

Boggs Lake hedge hyssop (*Gratiola heterosepala*). State Endangered, CRPR 1B. Moderate Potential. Boggs Lake hedge hyssop is an annual forb in the plantain family (Plantaginaceae) that blooms from April to August. It typically occurs on clay soils in pools, depressions, and lake margins within freshwater marsh and swamp, and vernal pool habitat at elevations ranging from 30 to 7720 feet (CDFW 2019a, CNPS 2019a). Known associated species include coyote thistle (*Eryngium vaseyi*), stipitate popcornflower (*Plagiobothrys stipitatus*), horned calicoflower (*Downingia ornatissima*), dwarf Downingia (*D. pusilla*), bristled Downingia (*D. bicornuta*), longstalk water-starwort (*Callitriche longipedunculata*), whitehead navarretia (*Navarretia leucocephala*), vernal pool goldfields (*Lasthenia fremontii*), and bractless hedge hyssop (*Gratiola ebracteata*) (CDFW 2019a). Boggs Lake hedge hyssop has a moderate potential to occur in the Study Area due to presence of seasonal wetlands and documented occurrences within 5-miles.

Glandular western flax (*Hesperolinon adenophyllum*). CRPR 1B. Moderate Potential. Glandular western flax is an annual herb in the flax family (Linaceae) that blooms from May through August. It typically occurs in chaparral, cismontane woodlands, and valley and foothill grasslands (usually on serpentine soils) at elevations ranging from 450 to 3900 feet (CNPS 2019a). Known associated species include leather oak, big squirreltail grass (*Elymus multisetus*), chamise (*Adenostoma fasciculata*), whiteleaf manzanita (*Arctostaphylos viscida*), vinegar weed (*Trichostema laxum*), buckwheat (*Eriogonum nudum*), red brome (*Bromus madritensis* ssp. *rubescens*), and wild oat (*Avena barbata*) (CDFW 2019a). Glandular western flax has a moderate potential to occur in the Study Area due to presence of grassland habitat underlain by serpentine soils. Additionally, there are documented occurrences are less than one mile from the Study Area.

Bolander's horkelia (*Horkelia bolanderi*). CRPR 1B. Moderate Potential. Bolander's horkelia is a perennial herb in the rose family (Rosaceae) that occurs blooms from June through August. It typically occurs on edges and vernally mesic areas of chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grasslands at elevations ranging from 1620 to 3300 feet (CNPS 2019a). Known associated species include fescue (*Festuca* spp.), barley (*Hordeum* spp.), many-flowered navarretia (*Navarretia plieantha*), tricolor monkey flower (*Diplacus tricolor*), calico flower (*Downingia* spp.), button celery *(Eryngium* spp.), milkweed (*Asclepias fasciculatus*), yarrow (*Achillea millefolium*), ponderosa pine (*Pinus ponderosa*), madrone (*Arbutus menziesii*), tarweed (*Madia* spp.), Burke's goldfield (*Lasthenia burkei*), leather oak, and chamise (CDFW 2019a). Bolander's horkelia has a moderate potential to occur in the Study Area due to presence of seasonal wetlands and grassland habitat.

Burke's goldfields (*Lasthenia burkei*) Federal Endangered, State Endangered, CRPR 1B. Moderate Potential. Burke's goldfields are annual herbs in the sunflower family (Asteraceae) that bloom from April to June. It typically occurs in mesic portions of pools and swales in meadow, seep, and vernal pool habitat at elevations ranging from 45 to 1970 feet (CDFW 2019a, CNPS 2019a). Known associated species include Italian rye grass, Mediterranean barley (*Hordeum marinum*), semaphore grass (*Pleuropogon californicus*), California oat grass (*Danthonia californica*), meadowfoams (*Limnanthes douglasii, L. vinculans*), goldfields (*L. glaberrima, L. californica, L. glabrata*), and rushes (*Juncus* spp.) (CDFW 2019a). Burke's goldfields have a moderate potential to occur in the Study Area due to presence of seasonal wetlands and grassland habitat.

Colusa layia (*Layia septentrionalis*). Rank 1B. High Potential. Colusa layia is an annual herb in the sunflower (Asteraceae) family that blooms April to May. It typically occurs in scattered colonies on grassy slopes in sandy or serpentine soils in chaparral, cismontane woodland, and valley and foothill grasslands at elevations ranging from 300 to 3300 feet (CNPS 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*) (CDFW 2019a). Colusa layia has a high potential to occur in the Study Area due to presence of grassland and woodland habitat.

Legenere (*Legenere limosa*). Rank 1B. Moderate Potential. Legenere is annual forb in the harebell family (Campanulaceae) that blooms from April to June. It typically occurs in the lower portions of vernal pool habitat at elevations ranging from 0 to 2890 feet (CDFW 2019a, CNPS 2019a). Known associated species include needle spikerush (*Eleocharis acicularis*), water chickweed (*Montia fontana*), goldfields (*Lasthenia* spp.), meadowfoams (*Limnanthes* ssp.), and non-native annual grasses (CDFW 2019a). Legenere has a moderate potential to occur in the Study Area due to presence of seasonal wetland habitat.

Woolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*). Rank 4. Moderate Potential. Woolly meadowfoam is an annual herb in the meadowfoam (Limnanthaceae) family that blooms March to May. It typically occurs in vernally wet areas within chaparral, cismontane woodland, and valley an foothill grassland at elevations ranging from 200 to 4380 feet (CNPS 2019a). Known associated species include goldfields (*Lasthenia californica*), blue oak (*Quercus douglasii*), California plantain (*Plantago erecta*), Foothill pine (*Pinus sabiniana*), needle goldfields (*Lasthenia gracilis*), tomcat clover (*Trifolium willdenovii*), soft chess *(Bromus hordeaceus*), sticky cinquefoil (*Drymocallis glandulosa*), sea blush (*Plectritis congesta*), broad leaf stonecrop (*Sedum spathulifolium*) (CCH 2019). This species has a moderate potential to occur in the Study Areas due to presence of known associated habitat with associated species.

Mayacamas popcornflower (*Plagiobothrys lithocaryus*). CRPR 1A. Moderate Potential. Mayacamas popcornflower is an annual forb in the forget-me-not (Boraginaceae) family that blooms from April through May. It typically occurs in mesic habitats within chaparral, cismontane woodland, and valley and foothill grassland at elevations ranging from 900 to 1300 feet (CNPS 2019a). It is presumed extirpated in California and rare or extinct elsewhere. No known associated species for this plant are available. Mayacamas popcorn flower has a moderate

potential to occur in the Study Area due to presence of mesic grassland habitat and vicinity of documented occurrences.

Lobb's aquatic buttercup (*Ranunculus lobbii*). CRPR 4. Moderate Potential. Lobb's buttercup is annual aquatic forb in the buttercup family (Ranunculaceae) that blooms from February to May. It typically occurs in vernally wet areas within cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pool habitat at elevations ranging from 45 to 1,530 feet (CNPS 2019a). Known associated species include mosquito fern (*Azolla filiculoides*), Northwest manna grass (*Glyceria occidentalis*), pale spike-rush (*Eleocharis macrostachya*), iris-leaf rush (*Juncus xiphioides*), common monkey flower (*Diplacus guttatus*), calico flower, perennial rye grass, meadow barley (*Hordeum brachyantherum*), and Mediterranean barley (*H. marinum*) (CCH 2019). Lobb's aquatic buttercup has a moderate potential to occur in the Study Area due to presence of seasonal wetland habitat.

Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*). CRPR 1B. Moderate Potential (Not Observed). Marsh checkerbloom is a perennial herb in the mallow (Malvacaeae) family that blooms from July through August. It typically occurs in mesic sites in meadows and seeps and riparian forest at elevations ranging from 3300 to 6900 feet (CNPS 2019a). Known associated species include vernal grass (*Anthoxanthum odoratum*), blue grass (*Poa pratensis*), meadow barley (*Hordeum brachyantherum*), California oat grass (*Danthonia californica*), rush (*Juncus* spp.), sneezeweed (*Helenium bigelovii*), velvet grass (*Holcus lanatus*), cut-leaf blackberry (*Rubus laciniatus*), tinkers penny (*Hypericum anagalloides*), and selfheal (*Prunella vulgaris*) (CDFW 2019a). The site visit was conducted in August, during which time this species is identifiable through flower and fruit features. No individuals were observed.

Beaked Tracyina (*Tracyina rostrata*). CRPR 1B. Moderate Potential. Beaked Tracyina is an annual forb in the sunflower family (Asteraceae) that blooms from May to June. It typically occurs in grassy, open sites in cismontane woodland and valley and foothill grassland habitat at elevations ranging from 290 to 2575 feet (CNPS 2019a, CDFW 2019a). Known associated species include blue oak (*Quercus douglasii*), valley oak, Pacific madrone, dogtail grass (*Cynosurus echinatus*), Medusa head, bearded goat grass (*Aegilops triuncialis*), European hair grass (*Aira caryophyllea*), and rattlesnake grass (*Briza maxima*) (CDFW 2019a). Beaked tracyina has a moderate potential to occur in the Study Area due to presence of grasslands with known associated species.

Oval-leaf Viburnum (*Viburnum ellipticum*). CRPR 2. Moderate Potential. Oval-leaf viburnum is a shrub in the honeysuckle family (Caprifoliaceae) that blooms from May to June, with identifiable vegetative characteristics remaining intact into fall. It typically occurs in chaparral, cismontane woodland, and lower montane coniferous forest habitat at elevations ranging from 695 to 4550 feet (CDFW 2019a, CNPS 2019a). Known associated species include Pacific madrone, blue oak, Oregon white oak, California black oak (*Q. kelloggii*), interior live oak (*Q. wislizenii*), California bay, sticky manzanita (*Arctostaphylos viscida*), poison oak (*Toxicodendron diversilobum*), choke cherry (*Prunus virginiana*), mock orange (*Philadelphus lewisii*), and thimbleberry (*Rubus parviflorus*) (CDFW 2019a). Oval-leaf viburnum has a moderate potential to occur in the Study Area due to presence of woodland habitat with known associated species.

5.2.2 *Special-status Wildlife Species*

A total of 17 special-status wildlife species have been documented in the vicinity of the Study Area (CDFW 2019a). Special status wildlife species known from the vicinity of the Study Area are shown in Figure 5. Appendix B summarizes the potential for each of these special status species to occur in the Study Area. It was determined that nine of these species have a moderate to high potential to occur in the Study Area. The remaining species are unlikely or have no potential to occur due to one or more of the following reasons:

- Aquatic habitats (e.g., ponds, estuaries, rocky streams) necessary to support the special-status wildlife species are not present in the Study Area;
- Vegetation habitats (e.g., chaparral, conifer forest) that provide nesting, shelter and/or foraging resources necessary support the special-status wildlife species are not present in the Study Area;
- Physical structures and vegetation (e.g., mines, old-growth trees) necessary to provide nesting, cover, and/or foraging habitat to support the special-status wildlife species are not present in the Study Area;
- Host plants necessary to provide larval and nectar resources for the special-status wildlife species are not present in the Study Area;
- The Study Area is outside (e.g., north of, west of) of the special-status wildlife species documented nesting range.

During the 2008 site visit, two special-status wildlife species were observed, including White-tailed Kite (*Elanus leucurus*) and Tricolored Blackbird (*Agelaius tricolor*).

Special status wildlife species that were observed, or have a moderate or high potential to occur in the Study Area are discussed below.

Townsend's western big-eared bat, (*Corynorhinus townsendii townsendii*), CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. This species ranges throughout western North America from British Columbia to central Mexico. Its local distribution is strongly associated with the presence of caves, but roosting also occurs within man-made structures including mines and buildings. While many bats species wedge themselves into tight cracks and crevices, big-eared bats hang from walls and ceilings in the open. Males roost singly during the spring and summer months while females aggregate in the spring at maternity roosts to give birth. Females roost with their young until late summer or early fall, until the young become independent, flying and foraging on their own. In central and southern California, hibernation roosts tend to be made up of small aggregations of individuals. Foraging typically occurs along edge habitats near streams and wooded areas, where moths are the primary prey.

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. Pallid bats are distributed from southern British Columbia and Montana to central Mexico, and east to Texas, Oklahoma, and Kansas. This species occurs in a number of habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous forests. Roosts are typically in rock crevices, tree hollows, mines, caves, and a variety of man-made structures, including vacant and occupied buildings. Tree roosting has been documented within snags and basal hollows of conifers, and within bole cavities in oak trees. Pallid bats are primarily insectivorous, feeding on large prey that is usually taken on the ground but sometimes

in flight. Prey items include arthropods such as scorpions, ground crickets, and cicadas (WBWG 2019). Trees within the Study Area (primarily oaks) may contain cavities or snags suitable for roosting by this species, and there are CNDDB occurrences in the vicinity (CDFW 2019a). A targeted bat habitat assessment was not performed during this biological assessment.

Silver-haired Bat (*Lasionycteris noctivagans*) CDFW Species of Special Concern, WBWG High Priority Species. Moderate Potential. Silver-haired Bats hibernate in a wide variety of locations including: tree hollows, loose tree bark, wood piles, cliff face crevices, cave entrances, and buildings. In summer, females form small maternity colonies in woodpecker or flicker holes, crevices, and under bark of hollow trees. Roosts range from 13-39 feet above the ground, are typically on the south side of trees, and are generally near water. Males roost singly beneath loose bark or in other natural cracks or crevices, also on the south sides of trees, but often at lower heights than nursery colonies. Silver-haired Bats typically feed in relatively protected areas, over streams or ponds, along roadsides, and in forests. This species consume flies, midges, leafhoppers, moths, mosquitoes, beetles, true bugs, and ants. Suitable maternity roost and hibernation roost habitat exist along the Manning Creek riparian corridor. Hollow trees and woodpecker holes are present to support roosting individuals. Manning Creek provides suitable foraging habitat for this species. A targeted bat habitat assessment was not performed during this biological assessment.

White-tailed Kite (*Elanus leucurus*). CDFW Fully Protected Species. High Potential (Observed). White-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates. The Study Area provides suitable year-round habitat for white-tailed kites, including stands of oaks for nesting and open areas in close proximity for foraging.

Tricolored Blackbird (*Agelaius tricolor*), State Threatened (Observed). The Tricolored Blackbird is common locally in the Central Valley and along coastal California. This species breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. It feeds in grassland and cropland habitats. This species is colonial; nesting habitat must be large enough to support about 30 pairs. Documented occurrences of tricolored blackbirds are within the vicinity of the Study Area. Additionally, Tricolored Blackbird were identified during the January 14, 2008 site visit.

Purple Martin (*Progne subis*), CDFW Species of Special Concern. Moderate Potential. Purple Martin is an uncommon summer resident in California, occurring in woodlands and low-elevation hardwood and coniferous forest. It usually feeds on insects captured in flight approximately 100-200 feet above ground. Purple Martin nests in cavities often located in a tall, old, isolated trees or snags in open forest or woodland. This species may nest in cavities that are present within the Manning Creek riparian vegetation.

Western Pond Turtle (*Actinemys marmorata*), CDFW Species of Special Concern. Moderate Potential. The Western Pond Turtle is the only native turtle in Central and Northern California. This turtle is uncommon to common in suitable aquatic habitat throughout California,

west of the Sierra-Cascade crest. Western pond turtles inhabit perennial aquatic habitats, such as lakes, ponds, rivers, and streams that provide submerged cover and basking structures (Zeiner et. al. 1990). Western pond turtles prefer to nest on unshaded slopes within 300 feet of aquatic habitat, and hatchlings require shallow water with relatively dense emergent and submergent vegetation for foraging (Jennings and Hayes 1994). Western pond turtles have a moderate potential to occur within the Study Area, though the species has not been documented in or immediately adjacent to the area. Manning Creek is suitable habitat for Western pond turtles. Additionally uplands that are not inundated for prolonged timeframes near the creek may serve as nesting habitat for this species.

Sacramento Perch (*Archoplites interruptus*) CDFW Species of Special Concern. High Potential. Historically, Sacramento Perch were found throughout the Central Valley, the Pajaro and Salinas Rivers, and in Clear Lake. The only two populations within their historical distribution are those in Clear Lake and Alameda Creek. In lakes, this species mainly occurs in inshore areas, close to the bottom. This species is typically associated with beds of rooted, submerged, and emergent vegetation and submerged objects. In moderately clear water, beds of aquatic plants seem to be essential for juvenile fish. They can also prevalent in highly turbid waters with no aquatic plants. They can withstand poor water quality. Spawning occurs from late-March through August. Sacramento Perch congregate in shallow areas with high densities of submerged objects such as rocks, roots, sticks, aquatic plants and filamentous algae. Prey taken is dependent on body size, but ranges from zooplankton to insect larvae to small fish. Sacramento Perch likely inhabit the lower reaches of Manning Creek in the vicinity of the Study Area. Sacramento Perch are documented to occur in Clear Lake (CDFW 2019a, Moyle 2002). There is a high potential for this species to occur within the lower reaches of Manning Creek in the vicinity of the Study Area.

Clear Lake Hitch (*Lavinia exilicauda chi*), CDFW Species of Special Concern. High Potential/ Presumed Present. Clear Lake Hitch are found throughout Clear Lake (Moyle 2002). Adult fish are pelagic and migrate into the gravel bottomed sections of the lower reaches of Clear Lake's tributaries to spawn (Moyle 2002). The current major spawning tributaries to Clear Lake are, in order of importance, Kelsey, Adobe, Seigler Canyon, Middle, Scotts, Manning, and Cole Creeks. Spawning migrations occur from mid-March through May and occasionally into June. This species requires clean fine to medium gravel and water temperatures between 14-18 degrees Celsius to spawn. Eggs hatch in 3-7 days and larvae require another 3-4 days to become free swimming and quickly move down into the lake. Juvenile fish are found in inshore shallow-water habitat and move into deeper water as they age. Clear Lake Hitch feed on zooplankton, although insects may be taken off the surface when abundant (Moyle 2002). Clear Lake Hitch are considered present, as they are known to spawn in Manning Creek, which runs along the east edge of the Study Area (CDFG 1995).

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated Critical Habitat (USFWS 2019b) or Essential Fish Habitat (EFH); however, Manning Creek, at the edge of the Study Area provides connectivity between Clear Lake and spawning areas for Clear Lake hitch. The Study Area is not within a designated wildlife corridor.

6.0 SUMMARY AND RECOMMENDATIONS

Four sensitive land cover types are present within the Study Area consisting of valley oak woodland, wetlands drainage channel, and intermittent stream. Fourteen special-status plants and nine special-status wildlife have the potential to occur in the Study Area. Additionally, most actively nesting birds also receive basic protections and must be avoided. The following sections provide recommendations for future surveys and/or measures to avoid or reduce impacts to these sensitive biological resources.

6.1 Land Cover Types

6.1.1 Terrestrial Land Cover Types

Valley Oak Woodlands

Valley oak woodlands are considered a sensitive vegetation alliance by CDFW, therefore impacts must be considered under CEQA review. Additionally, as the woodland is associated with Manning Creek, it is also considered riparian vegetation and is therefore within CDFW jurisdiction under Section 1602 of CFGC. If impacts to riparian vegetation is to occur, a Lake and Streambed Alteration Agreement (LSAA) from CDFW will be necessary. Finally, County General Plan Policy OSC-1.13 requires management of oak woodland communities and Policy OSC-1.4 and OSC-1.9 requires protection of riparian corridors; however no specific requirements are listed.

6.1.2 Aquatic Resources

Approximately 7.13 acres of wetland is present within the Study Area. Wetlands are considered sensitive, as impacts to them are to be considered under CEQA. Additionally, they are potentially within the jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA and/or Porter Cologne Act. Those areas that meet the criteria of the Corps and are considered jurisdictional will require a Section 404 permit prior to any filling or grading. The Regional Water Quality Control Board also regulates impacts to wetlands and requires a Section 401 Water Quality Certification for impacts to wetlands. Finally, Section 7 of the County Zoning Ordinance requires a 20-foot buffer from seasonal wetlands. If impacts to wetlands are proposed, permits from the Corps, RWQCB will need to be obtained prior to construction.

Manning Creek, a USGS blue-line intermittent stream, is located along the eastern boundary of the Study Area. This stream likely meets the Corps definition of a stream and if impacts within the ordinary high water mark or TOB are to be expected, a Section 404 permit and a Section 401 Water Quality Certification will be required. Additionally, the stream is within CDFW jurisdiction under Section 1602 of CFGC. If impacts to the stream are expected, a Lake and Streambed Alteration Agreement (LSAA) from CDFW will be necessary. Finally, Section 7 of the County Zoning Ordinance requires a stream buffer based on edge of riparian vegetation or TOB; the buffer is described as either edge of riparian plus an additional 30-feet or 20-feet from TOB.

The drainage channel likely meets the Corps definition of a stream and if impacts within the OHWM or TOB are to be expected, a Section 404 permit and Section 401 Water Quality Certification will be required. Finally, Section 7 of the County Zoning Ordinance requires a stream buffer from TOB. General recommendations described above are recommended to avoid impacts to the drainage channel.

6.2 Special-status Species

6.2.1 Special-status Plants

Sixteen special-status plants were determined to have the potential to occur in the Study Area. Two which would have been identifiable during the August site visit were not observed, however presence or absence of the remaining 14 is unknown. Special-status plant surveys should be conducted in April, May, and July to determine presence or absence. If no special-status plants are observed, no impacts are expected. However, if any special-status plants are observed, their location and extent should be mapped and information regarding the population, sufficient for a CNDDB report, should be noted. If avoidance to special-status plants are not possible, and impacts to populations of special-status plants are to occur, a restoration plan should be drafted by a qualified biologist to describe activities to mitigate the impacts. The restoration plan should be approved by County staff prior to construction activities.

6.2.2 Special-status Wildlife

Of the special status species that are known to occur in the vicinity of the Study Area, three species, White-tailed Kite, Tricolored Blackbird and Clear Lake Hitch have been documented to occur on site. One additional species, Sacramento Perch, has a high potential to occur within the Study Area. Five additional species, Pallid Bat, Silver-haired Bat, Purple Martin, Western Pond Turtle and Bell's Sage Sparrow all have a moderate potential to occur within the Study Area.

Birds

To avoid potential impacts to breeding bird species covered by the MTBA and CFGC, WRA recommends that tree/vegetation removal and initial ground disturbance occur from August 16 to January 31, outside of the general bird nesting season. If tree/vegetation removal during this time is not feasible, a pre-construction nesting bird survey should be performed by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance is recommended. The survey should cover the Study Area (including tree removal areas) and surrounding areas within 500 feet for passerines and up to a quarter mile for raptors. If active bird nests are found during the survey, an appropriate no-disturbance buffer should be established by the qualified biologist. Once it is determined that the young have fledged (let the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

If ground disturbance in vegetated areas or removal of vegetation occurs during the non-breeding season, no preconstruction breeding bird surveys are required. However, if nesting birds are encountered during construction activities in the non-breeding season, it is recommended that ground disturbance in the area surrounding the nest cease immediately and a qualified biologist be notified. All work should remain halted until appropriate corrective measures have been completed (e.g. such as avoidance until fledging).

Tricolored blackbirds were identified as part of a mixed blackbird flock within the Study Area during the January 14, 2008 site assessment. This species typically nests in areas associated with dense cat-tail, willow, or blackberry in close proximity to open water, though the extent of these habitats in the Study Area are probably too small to support a nesting colony.

It is recommended breeding bird surveys as described above be conducted prior to construction activities. If breeding tricolored blackbirds are discovered, a 500-foot minimum exclusion-buffer would be required around the nest colony.

White-tailed kite is a tree/ shrub nesting species that often use trees along watercourses to nest; forest habitat along Manning Creek provides potential breeding habitat. This species was observed foraging within the Study Area during the January 14, 2008 site assessment.

It is recommended breeding bird surveys as described above be conducted prior to construction activities if they occur in the nesting bird season. If breeding White-tailed kites are discovered an exclusion-buffer up to 0.25 miles may be required around the nest(s).

Purple Martins are summer residents to California and may use tree hollows and/or existing cavities in trees along Manning Creek to nest. It is recommended breeding bird surveys as described above be conducted prior to construction activities. If breeding pair(s) are discovered a 100-foot exclusion-buffer would be required around the nest(s).

Bats

Townsend's Big-eared Bat, Pallid Bat and Silver-haired Bat have a moderate potential to occur within the Study Area. Buildings within the Study Area may provide habitat for roosting Pallid Bats and Townsend's Big-eared Bats. Silver-haired bats are typically a tree roosting species and are found in tree hollows, existing tree cavities, and under exfoliating tree bark. This species may roost within Manning Creek riparian woodland. The grassland, wetlands and creek within the Study Area provide foraging habitat for these species.

Removal and trimming of trees during the bat maternity season (generally, April through August) could impact bat breeding and potentially result in the take of bats. Because a targeted bat habitat assessment was not conducted as part of this biological assessment, pre-construction surveys for bat habitat and recommendations for tree removal to avoid impacts to bat species are provided below. WRA recommends that any tree removal be performed from September through March, outside of the general bat maternity season. If tree removal during this period is not feasible, it is recommended that a bat habitat assessment and survey effort (the latter if needed) be performed by a qualified biologist prior to tree removal to determine if bats are present in the trees. If no suitable roosting habitat for bats is found, then no further study is warranted. If bat maternity roosts are detected, then these roosts should be avoided until the end of the maternity roosting season. Irrespective of time of year, all felled trees should remain on the ground for at least 24 hours prior to chipping, off-site removal, or other processing to allow any bats present within the felled trees to escape.

Fish

Clear Lake Hitch are known to occur and Sacramento Perch have a high potential to occur within Manning Creek along the eastern portion of the Study Area. Both of these aquatic species are sensitive to sediment discharge or filling of the aquatic habitat. Implementation of wetland avoidance measures and standard erosion control measures combined with standard setbacks from streams would be sufficient to avoid affecting these species.

Reptiles

Western pond turtle has a moderate potential to occur within Manning Creek and along the shallows of Clear Lake. Manning Creek in the vicinity of the Study Area is slow moving, deep and provides suitable and abundant basking opportunities. The soils within the riparian woodland are sandy and friable, suitable for western pond turtle nesting. Prior to the onset of construction activities, it is recommended that a survey for western pond turtle is conducted to determine if the species is present. If western pond turtles are detected, measures should be developed to avoid them based on the type of activity that will occur. These may include installation of an exclusion fence or daily clearance surveys.

Wildlife Corridors

Manning Creek provides connectivity between spawning habitat and pelagic habitat for Clear Lake Hitch. It may also serve as a corridor for other special status species such as Sacramento Perch and western pond turtle. Other common species are also likely to use the creek and its immediately adjacent habitats as a corridor. It is likely that activities that reduce Manning Creek's capacity to serve as a conduit for Clear Lake Hitch would be considered significant under CEQA. As such, it is recommended that the setbacks described for avoiding impacts to Manning Creek are observed (see Section 6.1.2). Implementation of these recommendations will reduce the potential for significant impacts to less than significant.

FEMA Flood Zone

Chapter 25 of Lake County Code of Ordinance provides regulatory guidelines for development within the FEMA flood zone. Any development or placement of structures in the FEMA flood zone should conform to the requirements of this chapter.

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Appendix A

Figures

Sources: National Geographic, WRA | Prepared By: mrochelle, 11/6/2019

Figure 1. Study Area Regional Location Map

Lakeport Drive-In
Lake County, California

0 1 2 Miles

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Figure 2.
Land Cover Types

Lakeport Drive-In
Lake County, California

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ENVIRONMENTAL CONSULTANTS

Sources: NAIP 2016 Aerial, WRA | Prepared By: mrochelle, 11/6/2019

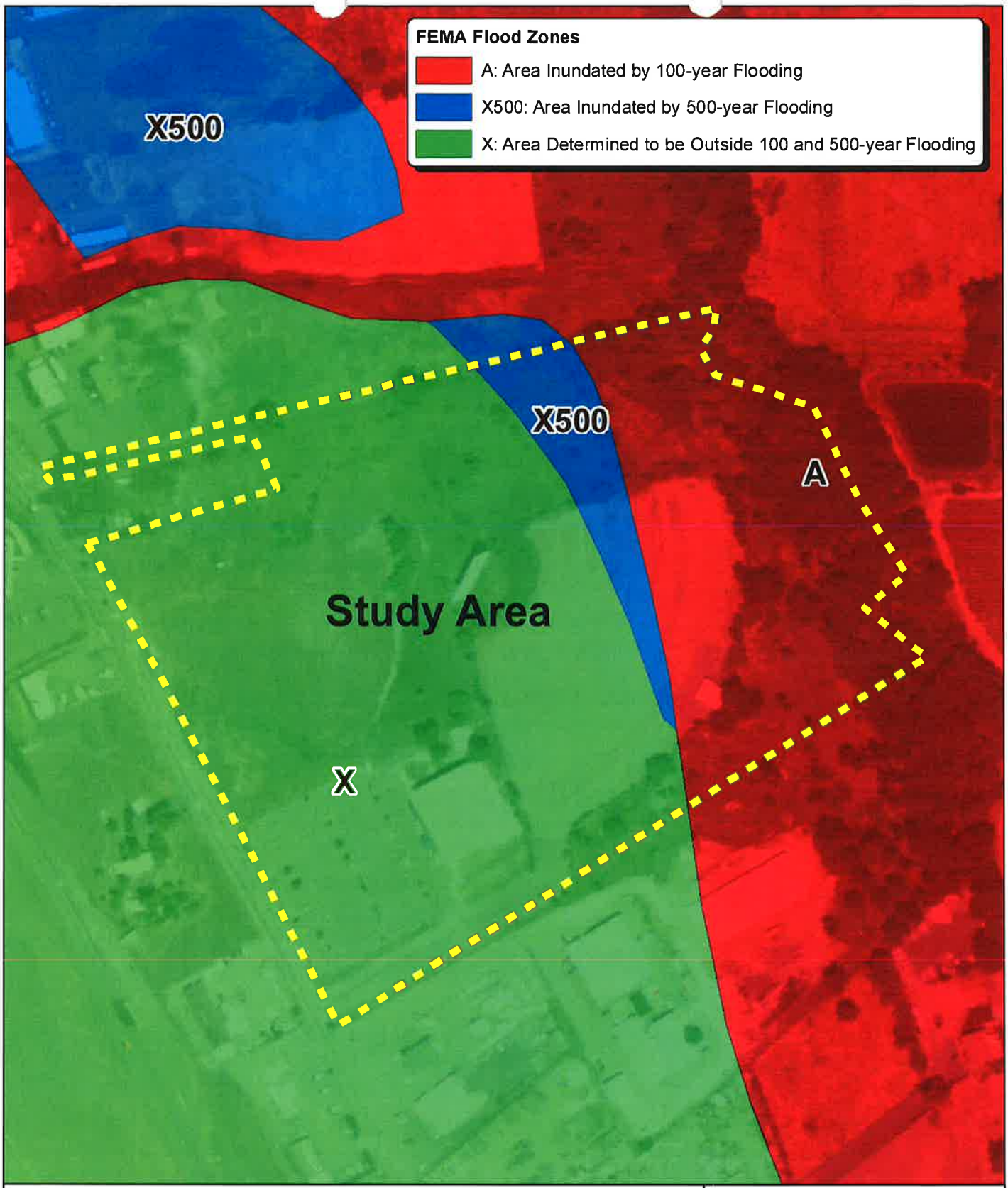

Figure 3. FEMA Flood Zones Map

N

0 100 200 400
Feet

Lakeport Drive-In
Lake County, CA

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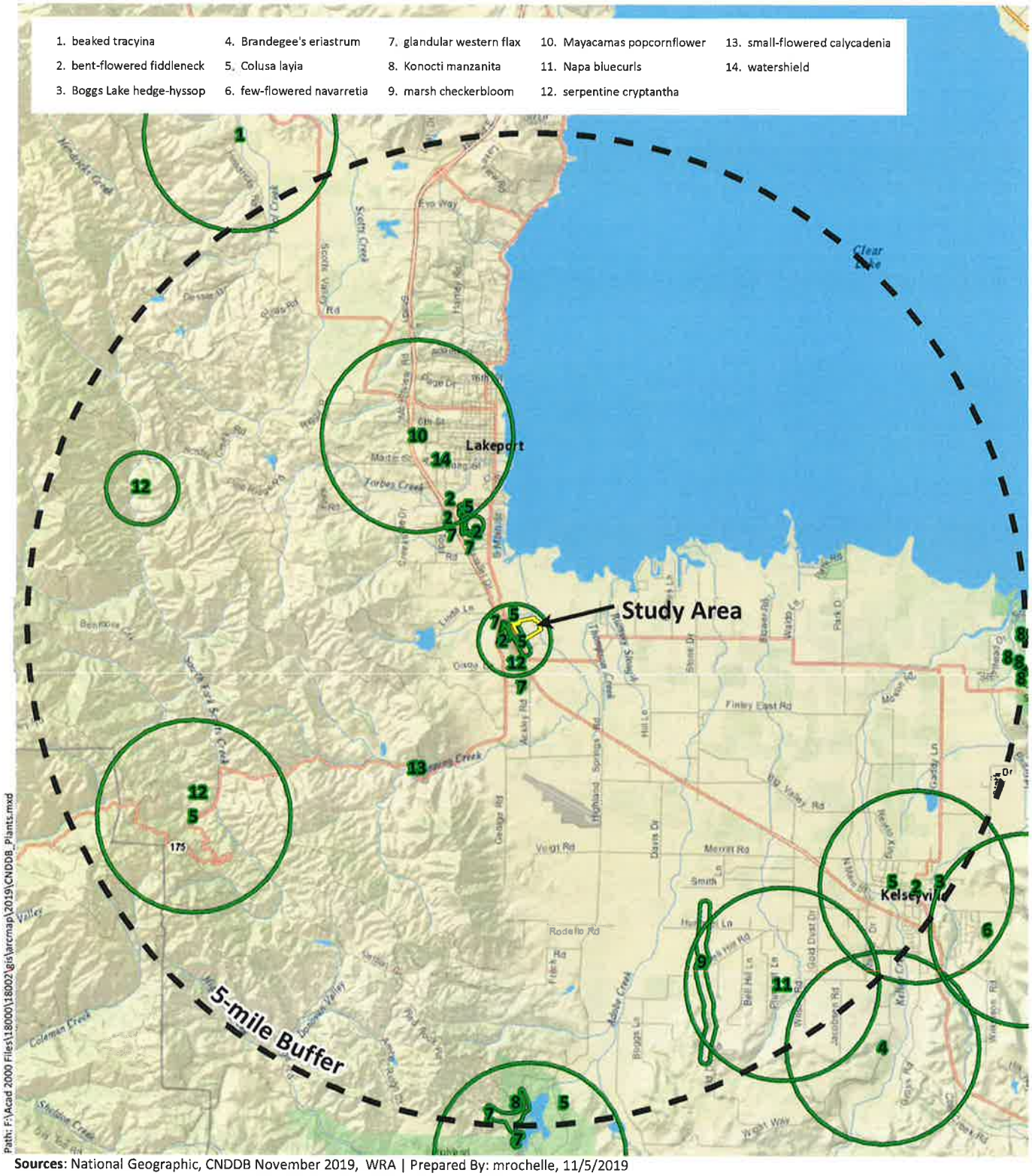
ENVIRONMENTAL CONSULTANTS

Date: January 2008
Photo: 2005, NAIP
Map By: Michael Rochelle
Filepath: I:\Acad2000\18000\18002\gis\Arcmap\BA*.mxd



Sources: National Geographic, CNDDB November 2019, WRA | Prepared By: mrochelle, 11/5/2019

Figure 4. Special-Status Plant Species Documented within 5-miles of the Study Area

Lakeport Drive-In
Lake County, California

0 1 2 Miles

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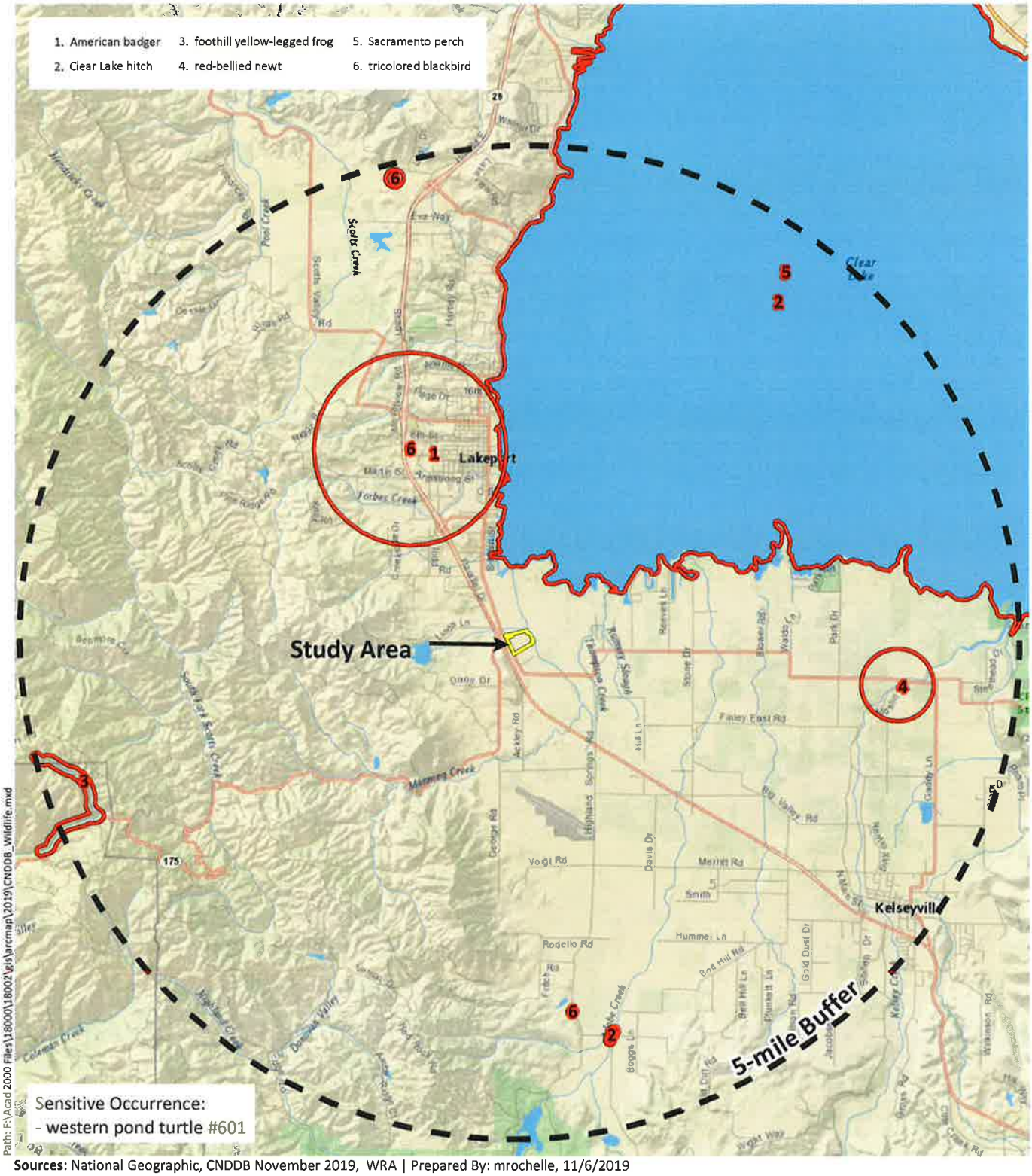

Sources: National Geographic, CNDDB November 2019, WRA | Prepared By: mrochelle, 11/6/2019

Figure 5. Special-Status Wildlife Species Documented within 5-miles of the Study Area

Lakeport Drive-In
Lake County, California

0 1 2 Miles

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Appendix B

Potential for Special-status Species to Occur in the Study Area

Appendix B. Potential for Special-status Species to Occur in the Project Area. List compiled from the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (2019), U.S. Fish and Wildlife Service (USFWS) Species Lists (2019), and California Native Plant Society (CNPS) Electronic Inventory (2019a) searches of the Cow Mountain, Upper Lake, Bartlett Mountain, Purdy's Gardens, Lakeport, Lucerne, Hopland, Highland Springs, and Kelseyville USGS 7.5' quadrangles.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 5 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**High Potential.** Cismontane woodland and grassland may support this species; documented within 1 mile of the Study Area.	Special-Status plant survey in April or May.
dimorphic snapdragon *Antirrhinum subcordatum*	Rank 4.3	Chaparral, lower montane coniferous forest. Elevation ranges from 605 to 2625 feet (185 to 800 meters). Blooms Apr-Jul.	**No Potential.** The Study Area does not contain chaparral or coniferous forest habitat.	**Not Present.** No further recommendations.
twig-like snapdragon *Antirrhinum virga*	Rank 4.3	Chaparral, lower montane coniferous forest. Elevation ranges from 325 to 6610 feet (100 to 2015 meters). Blooms Jun-Jul.	**No Potential.** The Study Area does not contain chaparral or coniferous forest habitat.	**Not Present.** No further recommendations.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	Rank 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 1295 to 5300 feet (395 to 1615 meters). Blooms (Jan) Mar-May(Jul).	**Unlikely.** Although cismontane woodland is supported in the Study Area, no naturally occurring manzanita individuals were observed during site visits.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Raiche's manzanita *Arctostaphylos stanfordiana ssp. raichei*	Rank 1B.1	Chaparral, lower montane coniferous forest (openings). Elevation ranges from 1475 to 3395 feet (450 to 1035 meters). Blooms Feb-Apr.	**No Potential.** Typical habitat is not present in the Study Area. No naturally occurring manzanita individuals were observed during January site visit.	**Not Present.** No further recommendations.
Brewer's milk-vetch *Astragalus breweri*	Rank 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly). Elevation ranges from 295 to 2395 feet (90 to 730 meters). Blooms Apr-Jun.	**Moderate Potential.** The Study Area contains gravelly open grassland habitat which is vernally moist.	Special-Status plant survey in April or May.
Mexican mosquito fern *Azolla microphylla*	Rank 4.2	Marshes and swamps (ponds, slow water). Elevation ranges from 95 to 330 feet (30 to 100 meters). Blooms Aug.	**No Potential.** The Study Area does not contain ponds.	**Not Present.** No further recommendations.
watershield *Brasenia schreberi*	Rank 2B.3	Marshes and swamps (freshwater). Elevation ranges from 95 to 7220 feet (30 to 2200 meters). Blooms Jun-Sep.	**No Potential.** The Study Area does not contain perennial aquatic features.	**Not Present.** No further recommendations.
small-flowered calycadenia *Calycadenia micrantha*	Rank 1B.2	Chaparral, meadows and seeps (volcanic), valley and foothill grassland. Elevation ranges from 15 to 4920 feet (5 to 1500 meters). Blooms Jun-Sep.	**Not Present.** Typical habitat consisting of chaparral and volcanic or serpentinite substrates is not present in the Study Area.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
four-petaled pussypaws *Calyptridium quadripetalum*	Rank 4.3	Chaparral, lower montane coniferous forest. Elevation ranges from 1030 to 6695 feet (315 to 2040 meters). Blooms Apr-Jun.	**No Potential.** The Study Area does not contain chaparral or coniferous forest habitat.	**Not Present.** No further recommendations.
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	Rank 4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 915 to 3315 feet (279 to 1010 meters). Blooms Apr-Jun.	**Moderate Potential.** The Study Area contains grassland habitat underlain by serpentine soils.	Special-status plant survey in May.
bristly sedge *Carex comosa*	Rank 2B.1	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland. Elevation ranges from 0 to 2050 feet (0 to 625 meters). Blooms May-Sep.	**Moderate Potential.** Wetland habitats in the Study Area may support this species.	**Not Observed**. A focused special-status plant survey conducted during the August site visit resulted in no observations. No further recommendations.
Rincon Ridge ceanothus *Ceanothus confusus*	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland. Elevation ranges from 245 to 3495 feet (75 to 1065 meters). Blooms Feb-Jun.	**Unlikely.** The Study Area does not contain coniferous forest or chaparral habitat; additionally, the cismontane woodland is not underlain by serpentine soils. No naturally occurring Ceanothus individuals were observed during site visit.	**Not Present.** No further recommendations.
Tracy's clarkia *Clarkia gracilis ssp. tracyi*	Rank 4.2	Chaparral (openings, usually serpentine). Elevation ranges from 210 to 2135 feet (65 to 650 meters). Blooms Apr-Jul.	**No Potential.** The Study Area does not contain chaparral habitat.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
serpentine collomia *Collomia diversifolia*	Rank 4.3	Chaparral, cismontane woodland. Elevation ranges from 655 to 1970 feet (200 to 600 meters). Blooms May-Jun.	**No Potential.** The Study Area does not contain chaparral habitat nor woodland habitat underlain by ultramafic soils.	**Not Present.** No further recommendations.
serpentine bird's-beak *Cordylanthus tenuis ssp. brunneus*	Rank 4.3	Closed-cone coniferous forest, chaparral, cismontane woodland. Elevation ranges from 1000 to 3000 feet (305 to 915 meters). Blooms Jul-Aug.	**Unlikely.** The Study Area does not contain coniferous forest or chaparral habitat; additionally, the cismontane woodland is not underlain by serpentine soils. No *Cordylanthus* individuals were observed during site visits.	**Not Present.** No further recommendations.
serpentine cryptantha *Cryptantha dissita*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 1295 to 1905 feet (395 to 580 meters). Blooms Apr-Jun.	**Unlikely.** While CNDDB has a documented occurrence within the Study Area, the radius of the occurrence is large and is likely including area outside of the actual population. This species is determined unlikely as typical habitat consisting of chaparral and serpentinite is not present in the Study Area.	**Not Present.** No further recommendations.
Humboldt County fuchsia *Epilobium septentrionale*	Rank 4.3	Broadleafed upland forest, north coast coniferous forest. Elevation ranges from 145 to 5905 feet (45 to 1800 meters). Blooms Jul-Sep.	**No Potential.** The Study Area does not contain rocky ledges in forest habitat.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Brandegee's eriastrum *Eriastrum brandegeeae*	Rank 1B.1	Chaparral, cismontane woodland. Elevation ranges from 1390 to 2755 feet (425 to 840 meters). Blooms Apr-Aug.	**Unlikely.** Although cismontane woodland is present in the Study Area, there are no volcanic soils.	**Not Present.** No further recommendations.
Purdy's fritillary *Fritillaria purdyi*	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 570 to 7400 feet (175 to 2255 meters). Blooms Mar-Jun.	**Unlikely.** While the Study Area contains cismontane woodland, it is not underlain by serpentine soils and receives saturated conditions.	**Not Present.** No further recommendations.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	SE, Rank 1B.2	Marshes and swamps (lake margins), vernal pools. Elevation ranges from 30 to 7790 feet (10 to 2375 meters). Blooms Apr-Aug.	**Moderate Potential.** Wetland habitats on clay soils may support this species; documented within 5 miles of the Study Area.	Special-Status plant survey in April or May.
Toren's grimmia *Grimmia torenii*	Rank 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 1065 to 3805 feet (325 to 1160 meters).	**Unlikely.** While the Study Are contains cismontane woodland, no rocky boulders or rocky openings are present.	**Not Present.** No further recommendations.
Hall's harmonia *Harmonia hallii*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 1000 to 3200 feet (305 to 975 meters). Blooms Apr-Jun.	**No Potential.** Suitable habitat consisting of chaparral and serpentinite is not present in the Study Area. Usually associated with serpentine barrens.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
glandular western flax *Hesperolinon adenophyllum*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 490 to 4315 feet (150 to 1315 meters). Blooms May-Aug.	**Moderate Potential.** The Study Area contains grassland habitat underlain by serpentine soils; additionally, the species documented within 1 mile of the Study Area.	Special-status plant survey in June or July.
two-carpellate western flax *Hesperolinon bicarpellatum*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 195 to 3295 feet (60 to 1005 meters). Blooms May-Jul.	**Unlikely.** Suitable habitat consisting of chaparral and serpentinite is not present in the Study Area. Usually associated with rocky serpentine soil of chaparral.	**Not Present.** No further recommendations.
Bolander's horkelia *Horkelia bolanderi*	Rank 1B.2	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Elevation ranges from 1475 to 3610 feet (450 to 1100 meters). Blooms (May)Jun-Aug.	**Moderate Potential.** Wetland habitats may support this species.	Special-status plant survey in July.
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May.	**Unlikely.** The Study Area does not contain heavy clay soils nor coniferous forest, meadows/seeps or coastal prairie habitat.	**Not Present.** No further recommendations.
small groundcone *Kopsiopsis hookeri*	Rank 2B.3	North coast coniferous forest. Elevation ranges from 295 to 2905 feet (90 to 885 meters). Blooms Apr-Aug.	**No Potential.** The Study Area does not contain coniferous forest.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Burke's goldfields *Lasthenia burkei*	FE, SE, Rank 1B.1	Meadows and seeps (mesic), vernal pools. Elevation ranges from 45 to 1970 feet (15 to 600 meters). Blooms Apr-Jun.	**Moderate Potential.** Wetland habitats may support this species.	Special-Status plant survey in April or May.
Colusa layia *Layia septentrionalis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 325 to 3595 feet (100 to 1095 meters). Blooms Apr-May.	**High Potential.** Sandy cismontane woodland habitat may support this species; documented within 1 mile of Study Area.	Special-Status plant survey in April or May.
legenere *Legenere limosa*	Rank 1B.1	Vernal pools. Elevation ranges from 0 to 2885 feet (1 to 880 meters). Blooms Apr-Jun.	**Moderate Potential.** Wetland habitats may support this species.	Special-status plant survey in May.
bristly leptosiphon *Leptosiphon acicularis*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.	**Unlikely.** While the Study Area contains grassland and woodland habitat, the woodlands are seasonally inundated and the grasslands are underlain by serpentine soils.	**Not Present.** No further recommendations.
redwood lily *Lilium rubescens*	Rank 4.2	Broadleafed upland forest, chaparral, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest. Elevation ranges from 95 to 6265 feet (30 to 1910 meters). Blooms Apr-Aug(Sep).	**Unlikely.** While the Study Area contains woodland habitat, they are seasonally inundated and likely preclude this species.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools. Elevation ranges from 195 to 4380 feet (60 to 1335 meters). Blooms Mar-May(Jun).	**Moderate Potential.** The Study Area contains vernally wet areas in grassland and cismontane woodland habitat.	Special-status plant survey in April.
Anthony Peak lupine *Lupinus antoninus*	Rank 1B.2	Lower montane coniferous forest, upper montane coniferous forest. Elevation ranges from 4000 to 7495 feet (1220 to 2285 meters). Blooms May-Jul.	**No Potential.** Suitable habitat consisting of coniferous forest is not present in the Study Area.	**Not Present.** No further recommendations.
Cobb Mountain lupine *Lupinus sericatus*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 900 to 5005 feet (275 to 1525 meters). Blooms Mar-Jun.	**Unlikely.** While the Study Area contains woodland habitat, it is seasonally inundated and likely precludes this species.	**Not Present.** No further recommendations.
Mt. Diablo cottonweed *Micropus amphibolus*	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 145 to 2705 feet (45 to 825 meters). Blooms Mar-May.	**Unlikely.** Although cismontane woodland present in Study Area no rocky areas are present.	**Not Present.** No further recommendations.
green monardella *Monardella viridis*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland. Elevation ranges from 325 to 3315 feet (100 to 1010 meters). Blooms Jun-Sep.	**No Potential.** The Study Area does not contain upland woodland habitat.	**Not Present.** No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE, ST, Rank 1B.1	Vernal pools (volcanic ash flow). Elevation ranges from 1310 to 2805 feet (400 to 855 meters). Blooms May-Jun.	**Unlikely.** The Study Area does not contain vernal pools underlain by volcanic soils.	**Not Present.** No further recommendations.
many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE, SE, Rank 1B.2	Vernal pools (volcanic ash flow). Elevation ranges from 95 to 3115 feet (30 to 950 meters). Blooms May-Jun.	**Unlikely.** The Study Area does not contain vernal pools underlain by volcanic soils.	**Not Present.** No further recommendations.
slender Orcutt grass *Orcuttia tenuis*	FT, SE, Rank 1B.1	Vernal pools. Elevation ranges from 110 to 5775 feet (35 to 1760 meters). Blooms May-Sep(Oct).	**Unlikely.** The Study Area does not contain vernal pools nor known associated species.	**Not Present.** No further recommendations.
Gairdner's yampah *Perideridia gairdneri ssp. gairdneri*	Rank 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 2000 feet (0 to 610 meters). Blooms Jun-Oct.	**Unlikely.** The Study Area does not contain heavy clay soils.	**Not Present.** No further recommendations.
Mayacamas popcornflower *Plagiobothrys lithocaryus*	Rank 1A	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 980 to 1475 feet (300 to 450 meters). Blooms Apr-May.	**High Potential.** Mesic cismontane woodland habitat may support this species; documented within 2 miles of the Study Area.	Special-status plant survey in May.
Lobb's aquatic buttercup *Ranunculus lobbii*	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 45 to 1540 feet (15 to 470 meters). Blooms Feb-May.	**Moderate Potential.** The Study Area contains mesic sites in grassland habitat.	Special-status plant survey March through April.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	Rank 1B.2	Meadows and seeps, riparian forest. Elevation ranges from 3605 to 7545 feet (1100 to 2300 meters). Blooms (Jun)Jul-Aug.	**Moderate Potential.** The Study Area contains mesic grasslands/meadows with known associated species.	**Not Observed**. This species was not observed during a special-status plant survey in August. No further recommendations.
bearded jewelflower *Streptanthus barbiger*	Rank 4.2	Chaparral (serpentine). Elevation ranges from 490 to 3510 feet (150 to 1070 meters). Blooms May-Jul.	**No Potential.** The Study Area does not contain chaparral habitat.	**Not Present.** No further recommendations.
Hoffman's bristly jewelflower *Streptanthus glandulosus ssp. hoffmanii*	Rank 1B.3	Chaparral, cismontane woodland, valley and foothill grassland (often serpentine). Elevation ranges from 390 to 1560 feet (120 to 475 meters). Blooms Mar-Jul.	**No Potential.** The Study Area does not contain moist, steep rocky banks.	**Not Present.** No further recommendations.
green jewelflower *Streptanthus hesperidis*	Rank 1B.2	Chaparral (openings), cismontane woodland. Elevation ranges from 425 to 2495 feet (130 to 760 meters). Blooms May-Jul.	**No Potential.** Although cismontane woodland is present in the Study Area, it is not underlain by serpentine soils and is seasonally inundated.	**Not Present.** No further recommendations.
beaked tracyina *Tracyina rostrata*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 295 to 2590 feet (90 to 790 meters). Blooms May-Jun.	**Moderate Potential.** Cismontane woodland and grassland habitat within the Study Area may support this species.	Special-status plant survey in June or July.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Napa bluecurls *Trichostema ruygtii*	Rank 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 95 to 2230 feet (30 to 680 meters). Blooms Jun-Oct.	**No Potential.** The Study Area does not contain open, rocky habitat underlain by volcanic soils.	**Not Present.** No further recommendations.
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 705 to 4595 feet (215 to 1400 meters). Blooms May-Jun.	**Moderate Potential.** Cismontane woodland habitat may support this species.	Special-status plant survey in May.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				
Antrozous pallidus pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Moderate Potential.** Pallid bats may roost within the Riparian habitat along Manning Creek. Additional roosting habitat may be present within buildings on the property. Suitable foraging habitat is present within the Project Area.	Construction activities should be conducted outside of the bat maternity (April 1 - August 31) or hibernation (November 1 - March 31) periods. Should construction activities take place during these periods, bat surveys should be conducted. If maternity roosting bats are discovered during surveys, an exclusion-buffer would be required around the roost(s).

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Corynorhinus townsendii townsendii Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to disturbance	**Moderate Potential.** The Project Area lacks suitable caves or mines to provide roosting habitat for Townsend's Western Big-eared Bat. Some buildings may be suitable for the species. This species may occasionally forage within the Project Area.	Construction activities should be conducted outside of the bat maternity (April 1 - August 31) or hibernation (November 1 - March 31) periods. Should construction activities take place during these periods, bat surveys should be conducted. If maternity roosting bats are discovered during surveys, an exclusion-buffer would be required around the roost(s).

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Lasionycteris noctivagans silver-haired bat	WBWG Medium	Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. This species is primarily a forest dweller, feeding over streams, ponds, and open brushy areas. It roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	**Moderate Potential.** Suitable maternity roost and hibernation roost habitat exist along the Manning Creek riparian corridor. Hollow trees and woodpecker holes are present to support roosting individuals. Manning Creek provides suitable foraging habitat for this species.	Construction activities should be conducted outside of the bat maternity (April 1 - August 31) or hibernation (November 1 - March 31) periods. Should construction activities take place during these periods, bat surveys should be conducted. If bats are discovered during surveys, an exclusion-buffer would be required around the roost(s).
Martes caurina humboldtiensis Humboldt marten	SSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.	**Unlikely.** The Project Area does not contain late-successional coniferous forest that this species requires. There are no documented nearby occurrences of this species (CDFW 2019a).	No surveys or avoidance measures are recommended.
Pekania pennanti fisher - West Coast DPS	SSC, FC	Primarily inhabit mixed conifer forests composed of Douglas fir and associated conifers. They prefer heavy stands of mixed species of mature timber. They prey on a variety of small and medium sized mammals.	**Unlikely.** The Project Area does not contain the mixed, mature coniferous forest that this species requires. There are no documented nearby occurrences of this species (CDFW 2019a).	No surveys or avoidance measures are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Taxidea taxus American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	**Unlikely.** The soils within the Project Area are developed, hydrophilic, or comprised of compacted fill. These soil types are unsuitable habitat this species. Badgers may occasionally migrate through the Project Area along Manning Creek. The nearest documented occurrence of this species is 2.3 miles north northeast of the Project Area (CDFW 2019a).	No surveys or avoidance measures are recommended.
Birds				

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Agelaius tricolor tricolored blackbird	ST	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	**Present.** Tricolored Blackbirds were identified during the January 14, 2008 site visit.	Construction activities should occur between September 1 and January 31. If construction activities must take place outside this window, Pre-construction breeding bird surveys are recommended within 14 days of vegetation removal during breeding bird season (Feb 1 through August 31). If breeding pair(s) are discovered, an avoidance-buffer would be required around the nest colony.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Artemisiospiza belli belli Bell's Sage Sparrow	SSC, BCC	Prefers dense chaparral and scrub habitats in breeding season. Found in more open habitats in winter.	**Unlikely.** The Project Area does not support the vegetation that this species prefers as breeding habitat. Bell's Sage Sparrow may forage within the Project Area during winter. The nearest documented occurrence is 5.88 miles south of the Project Area (CDFW 2019a).	No surveys or avoidance measures are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Ammodramus savannarum grasshopper sparrow	SSC	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	**Moderate Potential.** The Study Area contains suitable grassland habitat for breeding.	Construction activities should occur between September 1 and January 31. If construction activities must take place outside this window, Pre-construction breeding bird surveys are recommended within 14 days of vegetation removal during breeding bird season (Feb 1 through August 31). If breeding pair(s) are discovered an avoidance-buffer would be required around the nest(s).

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Progne subis Purple Martin	SSC	Inhabits woodlands, low elevation coniferous forest. Nest in old woodpecker cavities and human-made structures.	**Moderate Potential.** This species may nest in cavities that are present within the Manning Creek riparian vegetation. The nearest documented occurrence of breeding Purple Martins is 11.3 miles south southeast of the Project Area (CDFW 2019a).	Construction activities should occur between September 1 and January 31. If construction activities must take place outside this window, Pre-construction breeding bird surveys are recommended within 14 days of vegetation removal during breeding bird season (Feb 1 through August 31). If breeding pair(s) are discovered an avoidance-buffer would be required around the nest(s).
Strix occidentalis caurina northern spotted owl	FT,SC (T) SSC	Year-round resident in dense, structurally complex forests, primarily those with old-growth conifers. In Marin County, uses both coniferous and mixed (coniferous-hardwood) forests. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	**No Potential.** The Study Area does not contain old-growth coniferous forest necessary to provide foraging and nesting habitat.	**Presumed Absent.** No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
white-tailed kite *Elanus leucurus*	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Present.** The trees in the Study Area are suitable to support nesting and the species has been observed in the Study Area.	Construction activities should occur between September 1 and January 31. If construction activities must take place outside this window, Pre-construction breeding bird surveys are recommended within 14 days of vegetation removal during breeding bird season (Feb 1 through August 31). If breeding pair(s) are discovered an avoidance-buffer would be required around the nest(s).
Herpetofauna				
Actinemys marmorata Pacific (western) pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**Moderate Potential.** Manning Creek is suitable habitat for Western Pond Turtles. Additionally uplands within 300 feet of the creek likely serve as nesting habitat for this species. There are no documented occurrences within 5-miles of the Study Area.	Avoid construction within 300 feet of Manning Creek. If avoidance is not possible, conduct surveys to determine if WPT is present or likely to nest in the Study Area. If present, avoid WPT. See Section 6 for more info.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Rana boylii foothill yellow-legged frog	SC, SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates. Highly aquatic.	**Unlikely.** Manning Creek in the vicinity of the Project Area is largely sandy and silt bottomed, and slow moving. This reach is poor quality habitat for Foothill Yellow-legged Frogs. The nearest documented occurrence is 4.65 miles west southwest of the Project Area (CDFW 2019a).	No surveys or avoidance measures are recommended.
Rana draytonii California red-legged frog	FT, SSC, RP	Lowlands and foothills in or near permanent sources of deep water with dense emergent and/or overhanging riparian vegetation. Favors perennial to intermittent ponds, stream pools and wetlands. Requires 11 to 20 weeks of continuous inundation for larval development. Disperses through upland habitats during and after rains.	**Unlikely.** No documented occurrences are within the 9-quad search and the species is not documented to occur in this part of Lake County.	No surveys or avoidance measures are recommended.
Taricha rivularis red-bellied newt	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat, though other forest types (e.g., hardwood) are also occupied. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flow.	**Unlikely.** Manning Creek is not a rocky perennial stream and as such does not provide suitable breeding habitat for this species. Forest habitat within the Study Area is generally less dense and warmer than is typically inhabited by red-bellied newt.	No surveys or avoidance measures are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
Fishes				
Sacramento Perch *Archoplites interruptus*	SSC	Historically found in the sloughs, slow-moving rivers and lakes of the central valley. Prefer warm water, aquatic vegetation is essential for young.	**Moderate Potential.** Sacramento Perch may inhabit the lower reaches of Manning Creek in the vicinity of the Project Area. Sacramento Perch are documented to occur in Clear Lake (CDFW 2019a, Moyle 2002).	Standard erosion control measures and setbacks should be sufficient to avoid impacts to this species.
Clear Lake Hitch *Lavinia exilicauda chi*	SSC	Found only in Clear Lake, Lake County and associated ponds. Spawns in streams flowing into clear lake. Adults found in the limnetic zone. Juveniles found in the nearshore shallow-water habitat hiding in the vegetation.	**High Potential (Assumed Present).** Clear Lake Hitch are known to spawn in Manning Creek, which is located along the east edge of the Project Area (CDFG 1995).	Standard erosion control measures and setbacks should be sufficient to avoid impacts to this species.
Invertebrates				
western bumble bee *Bombus occidentalis*	SC	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2015). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	**Unlikely.** This species is considered extirpated from this part of California.	No further recommendations are made for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FD	Federal Delisted
SE	State Endangered
SD	State Delisted
ST	State Threatened
SR	State Rare
Rank 1A	CNPS Rank 1A: Plants presumed extinct in California
Rank 1B	CNPS Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CNPS Rank 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CNPS Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CNPS Rank 3: Plants about which CNPS needs more information (a review list)
Rank 4	CNPS Rank 4: Plants of limited distribution (a watch list)

Potential to Occur:

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (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.

Results and Recommendations:

Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

Assumed Present. Species is assumed to be present on-site based on the presence of key habitat components.

Assumed Present without Impact. Species assumed present; however, project activities will not have an impact on the species.

Presumed Absent. Species is presumed to not be present due to a lack of key habitat components.

Not Observed. Species was not observed during surveys.

Appendix C

Species Observed in the Study Area

Appendix C. Plant species observed in the Study Area.

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Acer macrophyllum	Bigleaf maple	native	tree	-	-	FAC
Acer negundo	Boxelder	native	tree	-	-	FACW
Acmispon americanus var. *americanus*	Spanish lotus	native	annual herb	-	-	UPL
Agrostis capillaris	Colonial bentgrass	non-native	perennial grass	-	-	FAC
Alisma lanceolatum	Water plantain	non-native	perennial herb (aquatic)	-	-	OBL
Anthemis cotula	Dog fennel	non-native	annual herb	-	-	FACU
Arbutus menziesii	Madrone	native	tree	-	-	-
Arundo donax	Giant reed	non-native (invasive)	perennial grass	-	High	FACW
Asclepias fascicularis	Milkweed	native	perennial herb	-	-	FAC
Atriplex prostrata	Fat-hen	non-native	annual herb	-	-	FACW
Avena sp.	wild oats	non-native	annual grass	-	-	-
Baccharis pilularis	Coyote brush	native	shrub	-	-	-
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Bromus madritensis ssp. *rubens*	Foxtail brome	non-native (invasive)	annual grass	-	High	UPL
Carex barbarae	Valley sedge	native	perennial grasslike herb	-	-	FAC
Carex tumulicola	Split awn sedge	native	perennial grasslike herb	-	-	FACU
Centaurea solstitialis	Yellow starthistle	non-native (invasive)	annual herb	-	High	-
Cichorium intybus	Chicory	non-native	perennial herb	-	-	FACU
Cirsium vulgare	Bullthistle	non-native (invasive)	perennial herb	-	Moderate	FACU
Conium maculatum	Poison hemlock	non-native (invasive)	perennial herb	-	Moderate	FACW
Convolvulus arvensis	Field bindweed	non-native	perennial herb, vine	-	-	-
Crypsis schoenoides	Swamp grass	non-native	annual grass	-	-	FACW
Cuscuta campestris	Field dodder	native	annual herb, vine (parasitic)	-	-	-
Cynodon dactylon	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU
Cyperus eragrostis	Tall cyperus	native	perennial grasslike herb	-	-	FACW
Daucus carota	Carrot	non-native	perennial herb	-	-	UPL
Dipsacus fullonum	Wild teasel	non-native (invasive)	perennial herb	-	Moderate	FAC
Distichlis spicata	Salt grass	native	perennial grass	-	-	FAC
Eleocharis macrostachya	Spike rush	native	perennial grasslike herb	-	-	OBL
Elymus caput-medusae	Medusa head	non-native (invasive)	annual grass	-	High	-
Elymus triticoides	Beardless wild rye	native	perennial grass	-	-	FAC

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Epilobium brachycarpum	Willow herb	native	annual herb	-	-	-
Epilobium densiflorum	Willow herb	native	annual herb	-	-	FACW
Erigeron canadensis	Canada horseweed	native	annual herb	-	-	FACU
Erigeron foliosus	Leafy daisy	native	perennial herb	-	-	-
Eriogonum nudum	Naked buckwheat	native	shrub	-	-	-
Erodium cicutarium	Red stemmed filaree	non-native (invasive)	annual herb	-	Limited	-
Eryngium aristulatum var. *aristulatum*	Jepson's button celery	native	perennial herb	-	-	OBL
Eschscholzia californica	California poppy	native	annual, perennial herb	-	-	-
Euthamia occidentalis	Western goldenrod	native	perennial herb	-	-	FACW
Festuca arundinacea	Reed fescue	non-native (invasive)	perennial grass	-	Moderate	FACU
Festuca myuros	Rattail sixweeks grass	non-native (invasive)	annual grass	-	Moderate	FACU
Fraxinus latifolia	Oregon ash	native	tree	-	-	FACW
Helianthus bolanderi	Bolander's sunflower	native	annual, perennial herb	-	-	FAC
Heliotropium curassavicum var. *oculatum*	Seaside heliotrope	native	perennial herb	-	-	FACU
Hemizonia congesta ssp. *luzulifolia*	Woodrush tarweed	native	annual herb	-	-	-
Hordeum brachyantherum	Meadow barley	native	perennial grass	-	-	FACW
Hypochaeris radicata	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
Juncus occidentalis	Western rush	native	perennial grasslike herb	-	-	FACW
Juncus patens	Common rush	native	perennial grasslike herb	-	-	FACW
Juncus xiphioides	Iris leaved rush	native	perennial grasslike herb	-	-	OBL
Kickxia spuria	Fluellin	non-native	perennial herb	-	-	-
Lactuca saligna	Willow lettuce	non-native	annual herb	-	-	UPL
Lactuca serriola	Prickly lettuce	non-native	annual herb	-	-	FACU
Lepidium latifolium	Perennial pepperweed	non-native (invasive)	perennial herb	-	High	FAC
Lotus corniculatus	Bird's foot trefoil	non-native	perennial herb	-	-	FAC
Lythrum hyssopifolia	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL
Madia elegans	Common madia	native	annual herb	-	-	-
Malvella leprosa	Alkali mallow	native	perennial herb	-	-	FACU
Mentha pulegium	Pennyroyal	non-native (invasive)	perennial herb	-	Moderate	OBL
Persicaria sp.	smartweed	native	perennial herb	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Phalaris aquatica	Harding grass	non-native (invasive)	perennial grass	-	Moderate	FACU
Phalaris arundinacea	Reed canarygrass	native	perennial grass	-	-	FACW
Phyla nodiflora	Common lippia	native	perennial herb	-	-	FACW
Poa bulbosa	Bulbous blue grass	non-native	perennial grass	-	-	FACU
Polypogon monspeliensis	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
Portulaca oleracea	Common purslane	non-native	annual herb	-	-	FAC
Prunus sp.	pear	non-native	tree	-	-	-
Quercus lobata	Valley oak	native	tree	-	-	FACU
Rosa californica	California wild rose	native	shrub	-	-	FAC
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	shrub	-	High	FAC
Rumex crispus	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
Rumex pulcher	Fiddleleaf dock	non-native	perennial herb	-	-	FAC
Salix laevigata	Polished willow	native	tree	-	-	FACW
Spartium junceum	Spanish broom	non-native (invasive)	shrub	-	High	-
Stipa miliacea var. *miliacea*	Smilo grass	non-native (invasive)	perennial grass	-	Limited	-
Toxicodendron diversilobum	Poison oak	native	vine, shrub	-	-	FACU
Trifolium hirtum	Rose clover	non-native (invasive)	annual herb	-	Limited	-
Umbellularia californica	California bay	native	tree	-	-	FAC
Verbascum blattaria	Moth mullein	non-native	perennial herb	-	-	UPL
Vicia sativa	Spring vetch	non-native	annual herb, vine	-	-	FACU
Vicia villosa	Hairy vetch	non-native	annual herb, vine	-	-	-
Vinca majora	Periwinkle	non-native	vine	-	Moderate	-
Xanthium strumarium	Cocklebur	native	annual herb	-	-	FAC

All species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012) and *The Jepson Flora Project*; nomenclature follows *The Jepson Flora Project* (eFlora 2019) unless otherwise noted

Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species
Cf.: intended to indicate a species appeared to the observer to be specific, but was not identified based on diagnostic characters

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2019a)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2A:	Plants presumed extirpated in California, but more common elsewhere
Rank 2B:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2006)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited- moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Lichvar et al. 2016)

OBL:	Almost always a hydrophyte, rarely in uplands
FACW:	Usually a hydrophyte, but occasionally found in uplands
FAC:	Commonly either a hydrophyte or non-hydrophyte
FACU:	Occasionally a hydrophyte, but usually found in uplands
UPL:	Rarely a hydrophyte, almost always in uplands
NL:	Rarely a hydrophyte, almost always in uplands
NI:	No information; not factored during wetland delineation

Appendix D

Representative Photographs

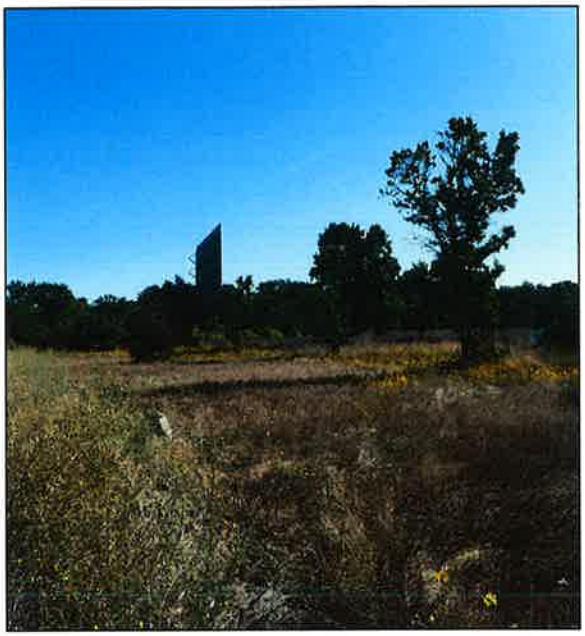

Photo 1. Photo looking northeast across western boundary of large seasonal wetland (on the right of the photo).

Photo 2. Photo looking west across non-native grassland in the western portion of the Study Area.

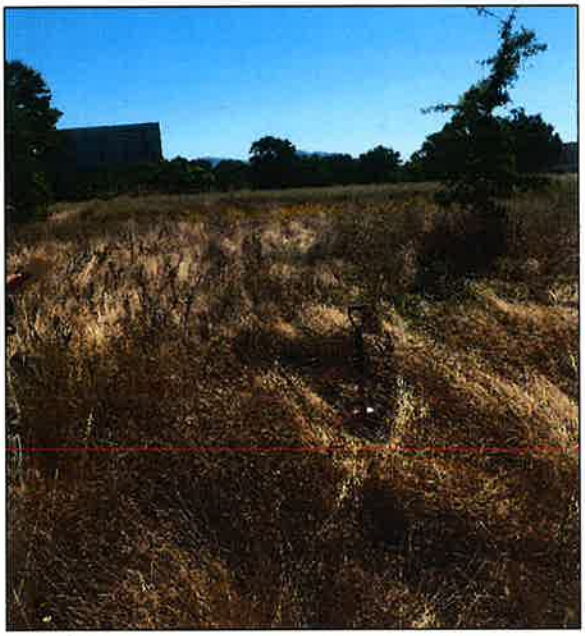

Photo 3. Photo looking south across isolated seasonal wetland.

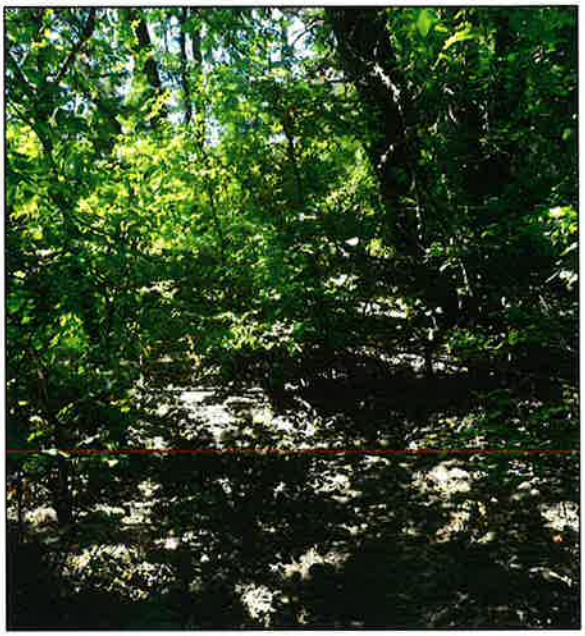

Photo 4. Photo of forested wetland near Manning Creek.