Attachment B

Burns Valley Subdivision Project

Biological Resources Assessment

October 2022 | 08391.00004.001

Revised May 2023

Prepared for:

The DANCO Group
5251 Ericson Way
Arcata, CA 95521

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

This page intentionally left blank

Table of Contents

Table of Contents (continued)

LIST OF APPENDICES

Acronyms and Abbreviations

BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSA	California Special Animals
CWA	Clean Water Act
DBH	diameter at breast height
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MSL	mean sea level
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
OHWM	ordinary high water mark
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

This page intentionally left blank

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) conducted a Biological Resources Assessment (BRA) for the 30.60-acre Burns Valley Subdivision Project (Project) on September 15, 2022. The Project is located on Old Highway 53 in the City of Clearlake in Lake County, California (Study Area). The Study Area is situated in a portion of Section 15 of Township 13 North and Range 7 West on the U.S. Geological Survey (USGS) *Lower Lake, California* 7.5-minute quadrangle map. The approximate center of the Study Area is latitude 38.97126° and longitude - 122.61526 °, NAD 83, and is located at an elevation that ranges from approximately 1,395 feet to 1,455 feet above mean sea level (MSL).

The purpose of this BRA is to assess the general biological resources on the Study Area, assess the suitability of the Study Area to support special-status species and sensitive vegetation communities or habitats, analyze any potential impacts to biological resources that could occur as a result of the proposed project and provide suggested mitigation measures to avoid and/or reduce any such impacts to less than significant.

The 30.60-acre Study Area is in a residential area in the City of Clearlake, California and consists primarily of undeveloped land consisting of oak woodlands, nonnative annual grasslands, and an unnamed intermittent drainage. The Study Area is comprised of blue oak–foothill pine woodland (11.42 acres), nonnative annual grassland (17.52 acres), and intermittent drainage (1.66 acres and 1,153 linear feet). Surrounding land uses include rural, single-family residences, wild lands, and agriculture.

Known or potential sensitive biological resources in the Study Area include:

- Potential habitat for California Rare and California Rare Plant Rank (CRPR) rank 3 special-status plants including Tracy's eriastrum (*Eriastrum tracyi*);
- Potential habitat for CRPR rank 1B special-status plants including bent-flowered fiddleneck (*Amsinckia lunaris*), and Cobb Mountain lupine (*Lupinus sericatus*);
- Potential habitat for state candidate species western bumble bee (*Bombus occidentalis*);
- Potential summer breeding habitat for federal candidate species Monarch butterfly (*Danaus plexippus*);
- Potential habitat for California Department of Fish and Wildlife (CDFW) Species of Special Concern purple martin (*Progne subis*), and western red bat (*Lasiurus blossevillii*);
- Potential habitat for special-status birds including CDFW watch-list species Cooper's hawk (*Accipiter cooperii*), osprey (*Pandion haliaetus*) and other nesting migratory birds and raptors;
- Potential habitat for CDFW designated special mammals including silver-haired bat (*Lasionycteris noctivagans*), and hoary bat (*Lasiurus cinereus*);
- Sensitive aquatic resources including one intermittent drainage; and
- Trees protected by the City of Clearlake.

This page intentionally left blank

1.0 INTRODUCTION

This report summarizes the findings of a Biological Resources Assessment (BRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the for ±30.60-acre Burns Valley Subdivision Project (Project), located on Old Highway 53 in the City of Clearlake (City), Lake County, California (Study Area). This document characterizes the on-site physical features, plant communities present, and the common plant and wildlife species occurring or potentially occurring in the Study Area. In addition, the suitability of habitats to support special-status species and sensitive habitats are analyzed, as well as any potential impacts to biological resources that could occur as a result of development of the proposed project. Where applicable, mitigation measures are provided to avoid and/or reduce any such impacts to less than significant.

1.1 PROJECT DESCRIPTION

Project development would involve the development of 22 low density residential lots and associated infrastructure including, but not limited to access roads and utilities, including on-site septic systems.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. Applicable CEQA significance criteria are also addressed in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed Project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in the potential for take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors, migratory birds, and other avian species are protected by State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the CDFW when preparing CEQA documents. The purpose is to ensure that State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species. It also directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code §2081).

2.2.2 California Department of Fish and Game Codes

A number of species have been designated as "Fully Protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code (FGC) but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The final "Revised Definition of 'Water of the United States'" rule was published in the Federal Register on January 18, 2023, and took effect on March 20, 2023 including in California. The final rule is not currently operative in all states outside of California due to litigation.

(a) The current definition of waters of the U.S. in California are defined as follows under (33 Code of Federal Regulations [CFR] Part 328.3: (1) Waters which are: (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters, including interstate wetlands; (2) Impoundments of waters otherwise defined as waters of the U.S. under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section; (3) Tributaries of waters identified in paragraph (a)(1) or (2) as defined above: (i) That are relatively permanent, standing or continuously flowing bodies of water; or (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) defined above; (4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) defined above; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3)(i) above and with a continuous surface connection to those waters; or (iii) Waters identified in paragraph (a)(2) or (3) above when the wetlands either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) above; (5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) above: (i) That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3)(i) above; or (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) above.

The 2023 final rule includes the agencies' longstanding definition of "wetlands" and "adjacent."

Wetlands are defined under the CFR Part 328.3 as those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Adjacent is defined under the CFR Part 328.3 as bordering, contiguous, or neighboring. The three types of jurisdictional adjacent wetlands include the following:

- wetlands that are adjacent to waters identified in paragraph (a)(1) above;
- adjacent wetlands that meet the relatively permanent standard;
- adjacent wetlands that meet the significant nexus standard.

The 2023 final rule determines jurisdiction for tributaries, adjacent waters, and additional waters through application of two standards, 1) the "relatively permanent" and 2) the "significant nexus" standards. To meet the relatively permanent standard, "waters must be relatively permanent, standing, or continuously flowing waters connected to paragraph (a)(1) waters, or waters with a continuous surface connection to such relatively permanent waters or to paragraph (a)(1) waters (33 CFR Part 328.3)." To meet the significance nexus standard, a significant nexus must exist such that "the waterbody (alone or in combination) significantly affects the chemical, physical, or biological integrity of traditionally navigable waters, the territorial seas, or interstate waters (33 CFR Part 328.3)." Functions to be assessed include contribution of flow; trapping, transformation, filtering, and transport of materials (including nutrients, sediment, and other pollutants); retention and attenuation of floodwaters and runoff; modulation of temperature in waters identified in paragraph (a)(1); or provision of habitat and food resources for aquatic species located in waters identified in paragraph (a)(1). Factors to consider include the distance from water identified in paragraph (a)(1); hydrologic factors (i.e., frequency, duration, magnitude, timing, and rate of hydrologic connections, including shallow subsurface flows); size, density of number of waters that have been determined to be similarly situated; landscape position and geomorphology; and climatological variables (e.g., temperature, rainfall, and snowpack).

The following are not considered "waters of the U.S." under the Revised Definition: (1) Waste treatment systems, including treatment ponds or lagoon, designed to meet the requirements of the Clean Water Act; (2) Prior converted cropland as designated by the Secretary of Agriculture. This exclusion ceases upon am change of use such that the area is no longer available for the production of agricultural commodities; (3)Ditches (including roadside ditches) excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water; (4) Artificially irrigated areas that would revert to dry land if irrigation ceased; (5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing; (6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons; (7) Waterfilled depression created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the U.S.; and (8) Swales and erosional features characterized by low volume, infrequent, or short duration flow.

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

The Clean Water Act (33 United States Code (USC) 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

2.3.2 State Jurisdiction

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal CWA. Although the CWA is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;
II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and
IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S."

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

California Department of Fish and Wildlife

CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds… except when the department has been notified pursuant to Section 1601." Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends applying for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist included in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

- Rank 1A: Plants presumed Extinct 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 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

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. The CDFW, in consultation with the CNPS assigns a California Rare Plant Rank (CRPR) to native species according to rarity; plants with a CRPR of 1A, 1B, 2A, 2B, or 3 are generally considered special-status species under CEQA. Furthermore, the CNPS CRPR include levels of threat for each species. These threat ranks include the following:

0.1 - Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20 to 80% occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.), be fully considered during preparation of environmental documents under CEQA.

2.4.2 California Department of Fish and Wildlife Species of Concern

Additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or listed as fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 LOCAL POLICIES AND REGULATIONS

2.5.1 City of Clearlake General Plan

In addition to federal and State regulations described above, the City of Clearlake General Plan (General Plan) includes goals, objectives, and policies regarding biological resources within the City limits (City of Clearlake 2017). Applicable sections of the General Plan are included in Appendix A.

2.5.2 City of Clearlake Municipal Code 18-40 Native Tree Protection

The purpose of this article is to ensure the preservation and protection of resources that cannot be replaced while also balancing the needs of commerce, industry, and the human population within the City. Trees are a valuable asset to make the City environment a healthier and more aesthetically appealing place to live. Given these recognized benefits and constraints, the intent and objectives of this article are to:

1. Protect and enhance the aesthetic qualities of the community provided by mature native trees;
2. Promote a healthy and attractive urban landscape as the community grows;
3. Limit the indiscriminate felling, removal, and destruction of certain trees;
4. Require the replacement of certain trees that are removed, where appropriate; and
5. Promote the preservation of existing trees during development. (Ord. #248-2020, S2).

Per Section 18.40.030 of the City Clearlake City Native Tree Protection Ordinance, a native tree permit shall be required for the following trees of a diameter at breast height of greater than six inches, unless exempted under Section 18-40.030: blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), California black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), Oregon white oak (*Quercus garryana*), and any other tree designated by the City Council as a "Heritage Tree" as described in subsection 18-5.1406. A heritage tree is defined as a tree that meets at least one of the following criteria as determined by the City Council:

1. an outstanding specimen of a desirable species;
2. is one of the largest or oldest trees in Clearlake;

3. the tree is of historical interest; or
4. the tree is of distinctive appearance.

3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed prior to conducting the field survey. The following published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2022. *California Natural Diversity Database* (CNDDB); For: *Lower Lake, CA* and eight surrounding USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [September 14, 2022];

- California Native Plant Society (CNPS). 2022. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.45) For: *Lower Lake, CA* and eight surrounding USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [September 14, 2022];

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2022. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov. Accessed [September 14, 2022];

- U.S. Fish and Wildlife Service (USFWS). 2022a. *Information for Planning and Consultation* (IPaC) *Burns Valley Subdivision Project.* Accessed [September 14, 2022]; and

- U.S. Geological Survey (USGS). 2022 *Lower Lake, California*. 7.5-minute series topographic quadrangle. United States Department of Interior.

Prior to conducting the biological field survey, existing information concerning known habitats and special-status species that may occur in the Study Area was reviewed, including queries of applicable resource agency databases. The results of the database queries are summarized in Appendix C. The biological field survey was conducted on September 15, 2022, by HELIX Senior Biologist Patrick Martin. The weather during the field survey was clear with an average temperature of between 75° and 80° Fahrenheit. The Study Area was systematically surveyed on foot to ensure total search coverage, with special attention given to portions of the Study Area with the potential to support special-status species and sensitive habitats. Binoculars were used to further extend site coverage and identify species observed. All plant and animal species observed were recorded (Appendix D), and all biological communities occurring on-site were characterized. All resources of interest were mapped with a Global Positioning System (GPS)-capable tablet equipped with a GPS receiver running ESRI Collector for ArcGIS® with sub-meter accuracy.

Following the field survey, the potential for each species (including special status species) identified in the database queries to occur within the Study Area was determined based on the site survey, soils, elevational and geographic ranges, habitats present within the Study Area, and species-specific information, as shown in Appendix E.

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The 30.60-acre Study Area is located on Old Highway 53 in the City of Clearlake, Lake County, California (Study Area), and can be located within a portion of Section 15, Township 13 North and Range 7 West on the U.S. Geological Survey (USGS) *Lower Lake, California* 7.5-minute quadrangle map (Appendix B, Figure 1). The approximate center of the Study Area is latitude 38.97126° and longitude -122.61526 °, NAD 83, and is located at an elevation that ranges from approximately 1,395 feet to 1,455 feet above mean sea level (MSL) as shown in Appendix B, Figure 2.

The Study Area and surrounding area has a history of agricultural production. Based on a review of historic aerial imagery (Google Earth 2022), the site has changed very little since 1993. The majority of the land surrounding the Study Area in 1993 was orchard to the west, and undeveloped wildlands to the east. Rural residences are located south and north of the Study Area. The surrounding area has gradually converted from agricultural uses to low density residential developments from 1993 to present. An aerial image of the Study Area is included in Appendix B, Figure 3.

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

Terrain in the Study Area is comprised of generally flat land adjacent to the intermittent drainage which consists of blue oak–foothill pine woodland and nonnative annual grassland with moderate hillslopes located in the southern portion of the Study Area in the blue oak–foothill pine woodland. The unnamed intermittent drainage originates to the east, which drains underneath State Route 53 to Clear Lake. Elevations on the site range from approximately 1,395 feet to 1,455 feet above MSL.

The Study Area is in the Upper Cache Creek watershed (USGS Hydrologic Unit Code (HUC) 18020116). All drainages adjacent to the Study Area drain to Clear Lake, and are ultimately tributary to the Sacramento River (via Cache Creek), a traditional navigable waters of the U.S.

4.2.2 Soils

The NRCS has mapped four soil units within the Study Area: Manzanita gravelly loam, 2 to 8 percent slopes, Phipps complex, 15 to 30 percent slopes, Still gravelly loam, and Wolfcreek gravelly loam (Appendix B, Figure 4). The general characteristics and properties associated with these soil types are described below. All soils in the Study Area are derived from alluvium (NRCS 2022) that consists of sedimentary rock (CGS 2010).

Manzanita gravelly loam, 2 to 8 percent slopes is a well-drained soil that consists of gravelly loam, gravelly clay, and gravelly sandy clay loam derived from alluvium which consists of sedimentary rock (CGS 2010). Manzanita gravelly loam, 2 to 8 percent slopes is well drained and is found on terraces. This soil map unit is considered rich soil that could provide farmland of statewide importance. This soil map unit is not considered hydric (NRCS 2022).

Phipps complex, 15 to 30 percent slopes, are well drained soils that consists of clay loam, and clay derived from alluvium which consists of sedimentary rock (CGS 2010). Phipps complex, 15 to 30 percent

slopes is well drained and is found on hills and backslopes. This soil map unit is not considered prime farmland. This soil map unit is not considered hydric (NRCS 2022).

Still gravelly loam, are well drained soils that consists of gravelly loam, stratified gravelly loam to gravelly clay loam and stratified loam to clay loam derived from alluvium derived from sandstone and shale. Still gravelly loam is well drained and is found on alluvial flats and backslopes. This soil map unit is not considered prime farmland. This soil map unit is not considered hydric (NRCS 2022).

Wolfcreek gravelly loam, are well drained soils that consists of gravelly loam, and stratified loam to sandy clay loam derived from alluvium which consists of sedimentary rock (CGS 2010). Wolfcreek gravelly loam is well drained and is found on floodplains and backslopes. This soil map unit is considered prime farmland if irrigated. This soil map unit is not considered hydric (NRCS 2022).

4.3 BIOLOGICAL COMMUNITIES

Two upland communities and one aquatic community occur within the Study Area: blue oak–foothill pine woodland (approximately 11.42 acres), and nonnative annual grassland (approximately 17.52 acres). One unnamed intermittent drainage (1.66-acres and 1,153-linear feet) is present in the Study Area. These habitat types are discussed below. A comprehensive list of all plant and wildlife species observed within the Study Area in these habitats is provided in Appendix D. Representative site photographs are included in Appendix F.

4.3.1 Blue Oak–Foothill Pine Woodland

Blue oak-foothill pine woodland habitat dominates the Study Area and is abundant in the surrounding vicinity. This habitat occurs between 500 and 3,000 feet above MSL and is diverse in structure and varies with a mix of hardwoods, conifers and shrubs that are often interspersed with annual grassland habitats. At lower elevations, this habitat merges with annual grasslands, blue oak woodlands and valley oak woodlands. Vegetation in this habitat consists primarily of blue oak (*Quercus douglasii*) interspersed with foothill pine (*Pinus sabiniana*) and interior live oak (*Quercus wislizeni*). A shrub layer that consists of Eastwood manzanita (*Arctostaphylos glandulosa*), toyon (*Heteromeles arbutifolia*), birch-leaf mountain mahogany (*Cercocarpus betuloides*), and chaparral honeysuckle (*Lonicera interrupta*) is present underlain with an annual herbaceous species understory. Annual vegetation resembles that of the annual grassland habitat described in Section 4.3.2. Blue oak–foothill pine woodland along the intermittent drainage supports valley oak (*Quercus lobata*) in addition to the other species described. Blue oak–foothill pine woodland is located on a flat to moderate slopes that varies in elevation and aspect throughout the Study Area which is bordered by large residential lots and a vineyard. Blue oak–foothill pine woodland provides breeding and foraging habitat for a several species of wildlife, such as cavity nesting birds like woodpeckers. Approximately 11.42 acres of blue oak–foothill pine woodland habitat occurs in the Study Area (Appendix B, Figure 5).

4.3.2 Nonnative Annual Grassland

Nonnative annual grassland habitats are open grasslands composed primarily of annual plant species that are not native to California. Many of these species also occur as understory plants in the blue oak–foothill pine woodland and within the intermittent drainage. Dominant species observed within annual grassland habitat in the Study Area include medusahead (*Elymus caput-medusae*), soft brome (*Bromus hordeaceus*), slender oats (*Avena barbata*), narrow tarplant (*Holocarpha virgata*), Harding grass

(*Phalaris aquaticus*), and yellow star-thistle (*Centaurea solstitialis*). Isolated patches of native vegetation also occur, which consist of narrow leaf mules ear (*Wyethia angustifolia*), naked buckwheat (*Eriogonum nudum*), and blue wildrye (*Elymus glaucus*). Approximately 17.52 acres of nonnative annual grassland habitat occurs in the Study Area (Appendix B, Figure 5).

4.4 AQUATIC RESOURCES

4.4.1.1 Intermittent Drainage

A total of 1.66 acres (1,153-linear feet) of intermittent drainage was mapped within the Study Area, consisting of one intermittent drainage that passes from underneath State Route 53, travels west and under a bridge along Old Highway 53. This unnamed intermittent drainage drains the surrounding slopes east of the Study Area to Clear Lake. Intermittent drainages are typically fed by waters from a seasonally perched groundwater table and are supplemented by precipitation and storm water runoff. After the initial onset of rains, these features have persistent flows throughout and past the end of the rainy season. Typically, these features exhibit a defined bed and bank and show signs of scouring because of rapid flow events. The bed of the intermittent drainage consists of gravel, and cobble with steeply incised banks and a floodplain. Hydrophytic vegetation was absent in the intermittent drainage which consists of nonnative annual grassland vegetation described in Section 4.3.2. The intermittent drainage has a wide floodplain, which includes blue oak–foothill pine woodland in the mapped intermittent drainage as described in Section 4.3.1. The intermittent drainage is tributary to Clear Lake, which is ultimately tributary to the Sacramento River.

4.5 SPECIAL-STATUS SPECIES

Special-status species are plant and wildlife species that have been afforded special recognition and protection by federal, State, or local resource agencies or organizations. These species are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., the PCCP, MBTA);
- Included on the CDFW Special Animals List or Watch List;
- Identified as Rare Plant Rank 1 to 3 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, USFWS, and CNPS ranked species (online versions) for the *Lower Lake, CA* USGS quadrangle and eight surrounding quadrangles. Appendix B includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species' potential for occurrence within the Study Area:

Will Not Occur: Species is either sessile (i.e., plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the Study Area;

Not Expected: Species moves freely and might disperse through or across the Study Area, but suitable habitat for residence or breeding does not occur in the Study Area, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100 percent certainty;

Presumed Absent: Habitat suitable for residence and breeding occurs in the Study Area; however, focused surveys conducted for the current project were negative;

May Occur: Species was not observed on the site and breeding habitat is not present, but the species has the potential to utilize the site for dispersal;

High: Habitat suitable for residence and breeding occurs in the Study Area and the species has been recorded recently in or near the Study Area, but was not observed during surveys for the current project; and

Present: The species was observed during biological surveys for the current project and is assumed to occupy the Study Area or utilize the Study Area during some portion of its life cycle.

Only those species that are known to be present, have a high potential to occur, or may occur are discussed further in the following sections.

4.5.1 Listed and Special-status Plants

According to the database query, 60 listed and/or special-status plant species have the potential to occur on or in the vicinity of the Study Area (CDFW 2022). Based on field observations, published information, and literature review, three special-status plants have potential to occur within the Study Area: bent-flowered fiddleneck (*Amsinckia lunaris*), Tracy eriastrum (*Eriastrum tracyi*), and Cobb Mountain lupine (*Lupinus sericatus*). All soils in the Study Area are derived from alluvium (NRCS 2022) that consists of sedimentary rock (CGS 2010). Many special-status plant species in the vicinity of the Study Area occur in volcanic or metamorphic derived soils that are not present in the Study Area (NRCS 2022; CGS 2010).

Special-status Plants that May Occur

Bent-flowered Fiddleneck (CRPR 1B.2)

Bent-flowered fiddleneck is an annual herb that is CRPR 1B.2 by CNPS (see Section 2.4.1 for CNPS rating definitions). This species is typically found in a variety of soils on gravelly slopes in cismontane woodlands, and grassland habitats. It blooms from March to June and is found at elevations ranging from 5 to 800 meters (m) (CNPS 2022). Soil in the Study Area ranges from a gravelly loam to clay and is derived from alluvium (NRCS 2022) that consists of sedimentary rock (CGS 2010). The biological survey was conducted outside of the optimal period of identification for this species. The nearest CNDDB reported occurrence is located one mile north of the Study Area along State Route 53 (CDFW 2022). The CNDDB record is an estimated location based on an observation from 1938 (CDFW 2022). Bent-flowered fiddleneck may occur in the nonnative annual grassland and blue oak–foothill pine woodland habitat

within the Study Area. There is potential for direct and indirect effects to bent-flowered fiddleneck if this species were to occur within the Study Area.

Tracy's Eriastrum (California Rare and CRPR 3.2)

Tracy's eriastrum is an annual herb that is a California state rare and CRPR rated 3.2 by the CNPS. This species is found in open areas in chaparral, cismontane woodland, and valley and foothill grassland. It blooms from May to August and is found at elevations ranging from 400 to 1,000 m elevation (De Groot et al. 2012). The biological survey was conducted outside of the optimal period of identification for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). Tracy's eriastrum may occur in the nonnative annual grassland and blue oak–foothill pine woodland habitat within the Study Area. There is potential for direct and indirect effects to Tracy's eriastrum if this species were to occur within the Study Area.

Cobb Mountain Lupine (CRPR 1B.2)

Cobb Mountain lupine is a perennial herb that is CRPR rated 1B.2 by the CNPS. This species occurs in chaparral, broadleafed upland forest, cismontane woodland, and lower montane coniferous forest. It blooms from March to June and is found at elevations ranging from 275 to 1,525 m elevation. The biological survey was conducted outside of the optimal period of identification for this species. Cobb Mountain lupine may occur in the blue oak–foothill pine woodland habitat within the Study Area. There is potential for direct and indirect effects to Cobb Mountain lupine if this species were to occur within the Study Area.

4.5.2 Listed and Special-status Wildlife

According to the database query, 26 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2022). Based on field observations, published information, and literature review, eight special-status wildlife species have the potential to occur within the Study Area: western bumble bee (*Bombus occidentalis*), Monarch butterfly (*Danaus plexippus*), Cooper's hawk (*Accipiter cooperii*), osprey (*Pandion haliaetus*), purple martin (*Progne subis*), silver-haired bat (*Lasionycteris noctivagans*), western red bat (*Lasiurus blossevillii*), and hoary bat (*Lasiurus cinereus*). These species are discussed in more detail below.

Special-status Wildlife that May Occur

Western Bumble Bee (CESA Candidate Endangered)

Western bumble bee is a primitively eusocial insect that lives in underground colonies made up of one queen, female workers, and reproductive members of the colony. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (Thorp et al. 1983). This species occurs in meadows and grasslands with an abundance of floral resources (CDFW 2019). This species is a generalist forager and has been reported visiting a wide variety of flowering plants. Select food plants include *Melilotus* spp., *Cirsium* spp., *Trifolium* spp., *Centaurea* spp., *Eriogonum* spp., and *Chrysothamnus* spp. (Koch *et al.* 2012). This species has a short tongue and typically prefers open flowers with short corollas but is known to chew through the base of flowers with long corollas. The flight period for queens in California is from early February to late November, peaking in late June and late September. New queens hibernate over the winter and initiate a new colony the following

spring (Thorp et al. 1983). This species is rare throughout its range and in decline west of the Sierra Nevada crest.

Annual grassland habitat provides marginally suitable habitat for this species in the Study Area where preferred select food plants such as yellow star-thistle (*Centaurea solstitialis*), naked buckwheat (*Eriogonum nudum*), and chaparral buckwheat (*Eriogonum dasyanthermum*) are present. Yellow star-thistle is an invasive weed that is scattered across the Study Area in grassland habitat. Buckwheat species present within grassland habitat in the Study Area is disturbed by annual weed management to reduce fire safety risks, however, disturbance to annual grassland habitat onsite is not so severe as to prevent underground bee colonies from being present. Western bumble bee is currently rare across its range and in decline as result of agricultural practices and diseases passed from domestic bees (CDFW 2019). In California it is limited to high elevation meadows in the Sierra Nevada and small coastal populations (CDFW 2019). There are no CNDDB documented occurrences of this species within 10 miles of the Study Area (CDFW 2023). There are only two documented occurrences of this species in Lake County, and both accounts are historic observations from the 1940s and 1960s (CDFW 2023). Additionally, there are no reported occurrences of western bumble bee in the iNaturalist database (iNaturalist 2023), which is a database for citizen scientists and naturalists to report and document observations of flora and fauna.

Monarch Butterfly (ESA Federal Candidate)

The federal determination December 17, 2020, determined that the Monarch butterfly warranted listing as an endangered or threatened species under the Federal Endangered Species Act of 1973, but the listing was precluded by higher priority listing actions (USFWS 2022b). Monarch butterflies roost in wind protected tree groves, especially with *Eucalyptus* sp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* sp.) (Nial et al. 2019; USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring (USFWS 2020). The overwintering population is located along the Coast while summer breeding areas occur in interior California and North America with spring breeding areas located further east (USFWS 2020).

Overwintering habitat is not present in the Study Area, although individual isolated eucalyptus trees are present along the boundary of the Study Area. Indian milkweed (*Asclepias eriocarpa*), a larval host plant is abundant along portions of the intermittent drainage in the Study Area and could provide habitat for the Monarch butterfly. The Study Area is in the summer breeding range of the Monarch butterfly and not in the coastal overwintering range (USFWS 2020). There are no CNNDB records for this species within a 5-mile radius of the Study Area and most records are located along the coast (CDFW 2022). Monarch butterfly could fly through the Study Area during the migration season and larval host plants are present in the Study Area. There is potential for direct and indirect effects to Monarch butterfly if this species were to lay eggs on larval host plant milkweed within or adjacent to Study Area.

Cooper's Hawk (CDFW Species of Special Concern)

Cooper's hawk is a year-round resident in California in wooded areas in the Central Valley and Sierra foothills. Areas near water are preferred. Cooper's hawks feed mainly on small birds and mammals (Zeiner et al. 1990).

Cooper's hawk was not observed during the biological survey on September 15, 2022. The Study Area provides nesting habitat in blue oak–foothill pine woodland and this species could also forage in this woodland. The Study Area is within this species year-round range and this species could nest in or adjacent to the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area, however this species has been documented nesting east of the Study Area during surveys conducted for northern goshawk (CDFW 2022). There is potential for direct and indirect effects to Cooper's hawk if this species were to nest within or adjacent to Study Area.

Osprey (CDFW Watch List Species)

Osprey breed in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. The species preys primarily on fish but also preys on small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Habitat and nesting requirements include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner et al. 1990).

The Study Area contains suitable nesting habitat for this species in blue oak–foothill pine woodland. This species could nest in tall trees or other structures such as utility poles in or adjacent to the Study Area. This species is known to nest near the Study Area around Clear Lake (CDFW 2022). There is potential for direct and indirect effects to osprey if this species were to nest within or adjacent to Study Area. Foraging habitat is not present in the Study Area.

Purple Martin (CDFW Species of Special Concern)

Purple martin occurs as a summer resident and migrant, primarily from mid-March to late September. This species breeds from May (rarely late April) to mid-August. Purple martins are widely but locally distributed in forest and woodland areas at low to intermediate elevations throughout much of the state. Martins use a wide variety of nest substrates (e.g., tree cavities, bridges, utility poles, lava tubes, and buildings), but nonetheless are very selective of habitat conditions nearby. Martins are most abundant in mesic regions, near large wetlands and other water bodies, and at upper slopes and ridges, which likely concentrate aerial insects (Shuford and Gardali 2008).

Suitable habitat for purple martin is present in tree cavities and utility poles both in the Study Area and adjacent to the Study Area. This species could forage over the Study Area or nest in tree cavities or cavities in utility poles. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). There is potential for direct and indirect effects to purple martin if this species were to nest within or adjacent to Study Area.

Silver-haired Bat (CDFW Special Animals List)

Silver-haired bats are native bats tracked by the CNDDB. This bat species is insectivorous and roosts in hollow trees, beneath exfoliating bark, in abandoned woodpecker holes, and rarely under rocks. They primarily occur in coastal and montane forests, feeding over streams, ponds, and open brushy areas (Zeiner et al. 1990). Young are typically born from May through July and are volant 36 days after birth (Zeiner et al. 1990). Each liter may consist of 1–2 young. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). This species could occur roosting under tree bark, in tree cavities and/or tree hollows.

The Study Area contains suitable roosting habitat for this species in blue oak–foothill pine woodland, especially along the unnamed intermittent drainage. Although potential roosting habitat is not situated adjacent to water, water sources are present in the vicinity of the Study Area, including Clear Lake, where this species may forage. The Study Area provides both roosting habitat and foraging habitat along woodland edges over nonnative annual grassland, as well as Clear Lake. This species could roost in tree cavities or snags and exfoliating bark and forage over the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). There is potential for direct and indirect effects to silver-haired bat if this species were to roost within or adjacent to Study Area.

Western Red Bat (CDFW Species of Special Concern)

Western red bat roosts primarily in woodlands and forests and forages in open habitat such as croplands, grasslands and shrublands. This species is typically associated with water and/or riparian habitats or mosaics of open space and forests. This species forages along edge habitats and usually found foraging or drinking with other bat species (Zeiner et al. 1990). This species has a poor urine concentrating ability and is typically associated with water. Western red bat is known to primarily roost solitarily in trees from 2 to 40-feet high, with females and young roosting higher in the trees than males. Young are typically born from May through July, and volant between 3 to 6 weeks after birth (Zeiner et al. 1990). Reproduction typically occurs individually, with each liter consisting of 1–5 young. Occasionally maternity colonies are found but are rare. Western red bat may also move their young between roost sites and are not tied to a specific roost location (Zeiner et al. 1990).

The Study Area contains suitable roosting habitat for this species in blue oak–foothill pine woodland, especially along the unnamed intermittent drainage. Although potential roosting habitat is not situated adjacent to water, water sources are present in the vicinity of the Study Area, including Clear Lake. The Study Area provides both roosting habitat and foraging habitat along woodland edges over nonnative annual grassland, as well as Clear Lake. This species could roost in tall trees and forage over the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). There is potential for direct and indirect effects to western red bat if this species were to roost in or adjacent to Study Area.

Hoary Bat (CDFW Special Animals List)

Hoary bat roosts primarily in woodlands and forests and forages in open habitat such as croplands, grasslands and shrublands. This species is typically associated with water and/or riparian habitats or mosaics of open space and forests. This species forages along edge habitats and usually found foraging or drinking with other bat species (Zeiner et al. 1990). This species has a poor urine concentrating ability and is typically associated with water. Hoary bat is known to primarily roost solitarily in medium to large trees with few branches below the roost site and ground cover with low reflectivity (Zeiner et al. 1990). Females and young roosting higher in the trees than males. Young are typically born from May through July, and volant between 33 days after birth (Zeiner et al. 1990). Reproduction typically occurs individually, with each liter consisting of 1–4 young.

The Study Area contains suitable roosting habitat for this species in blue oak–foothill pine woodland, especially along the unnamed intermittent drainage. Although potential roosting habitat is not situated adjacent to water, water sources are present in the vicinity of the Study Area, including Clear Lake. The Study Area provides both roosting habitat and foraging habitat along woodland edges over nonnative annual grassland, as well as Clear Lake. This species could roost in tall trees and forage over the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).

There is potential for direct and indirect effects to hoary bat if this species were to roost in or adjacent to Study Area.

Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; and Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

A number of migratory birds and raptors have the potential to nest in or adjacent to the Study Area. Many birds were observed within the Study Area during the field survey and suitable nest locations include trees, shrubs, grass, and bare ground. Habitat such as cavities in trees and tree snags may provide habitat for cavity nesting birds. Therefore, nesting birds are expected to occur within the Study Area during the nesting season (generally February 1 to August 31).

4.6 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA; Section 1600 of the California Fish and Game Code, which includes riparian areas; and/or Sections 401 and 404 of the Clean Water Act, which include wetlands and other waters of the U.S. Sensitive habitats or resource types within the Study Area are discussed below.

4.6.1 Aquatic Resources

A total of 1.66 acres (1,153 linear feet) of aquatic resources have been delineated in the Study Area consisting of one intermittent drainage. This feature is likely considered a water of the U.S. and water of the State subject to USACE and RWQCB jurisdiction under Sections 404 and 401 of the CWA. The intermittent drainage also falls under the jurisdiction of Section 1600 of the California Fish and Game Code, which includes riparian areas. A formal aquatic resource delineation was not conducted in conjunction with this BRA.

4.6.2 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species

extinction; and, (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The Study Area is bordered by major roadways, rural residential properties, vineyard, and undeveloped wild lands on all sides. Although wildlife may disperse through the Study Area on a local level, the Study Area is not considered a wildlife migration or movement corridor.

5.0 IMPACTS AND RECOMMENDED MITIGATION

5.1 SPECIAL-STATUS PLANTS

The Study Area contains suitable habitat for bent-flowered fiddleneck, Tracy's eriastrum, and Cobb Mountain lupine within the blue oak–foothill pine woodland, nonnative annual grassland, and intermittent drainage habitats. If present within the Study Area, these species could be impacted by the proposed project through grading or vegetation removal activities. Loss of special-status plant populations would represent a potentially significant impact. To avoid potential impacts to these species, the following measures are recommended:

- A qualified botanist should conduct a special-status plant survey within the appropriate identification (blooming) period prior to the initiation of any ground-disturbing activities that affect the Study Area. If no special-status plants are observed, then a letter report documenting the methods and results of the survey should be prepared and submitted to CDFW and no further measures are recommended.

- If special-status plants are observed within the Study Area, the location of the special-status plants should be marked with pin flags or other highly visible markers and may also be marked by GPS. The project proponent should determine if the special-status plant(s) on-site can be avoided by project design or utilize construction techniques to avoid impacts to the special-status plant species. All special-status plants to be avoided should have exclusion fencing or other highly visible material marking the avoidance area and the avoidance area should remain in place throughout the entire construction period.

- If special-status plants are found within the Study Area and cannot be avoided, the project proponent should consult with the CDFW to determine appropriate measures to mitigate the loss of special-status plant populations. These measures may include gathering seed from impacted populations for planting within nearby appropriate habitat, preserving or enhancing existing off-site populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species habitat as directed by CDFW.

5.2 SPECIAL-STATUS WILDLIFE

5.2.1 Western Bumble Bee

The Study Area contains suitable habitat for western bumble bee within the nonnative annual grassland and intermittent drainage habitats. If present within the Study Area, this species could be impacted by the proposed project through grading or vegetation removal activities. The loss of western bumble bee

colonies would be a potentially significant impact. To avoid potential impacts to western bumble bee, the following measures are recommended:

A qualified biologist familiar with species of bumble bees in the area of the project should conduct a habitat assessment and preconstruction survey to confirm the presence or absence of western bumble bee prior to the implementation of project related activities. Surveys should be conducted during the active flight season from March 15th through September 30th (Koch *et al.* 2012) when this species will be most visible in the area.

- A qualified biologist shall conduct a habitat assessment for western bumble bee during the initial survey during the active flight season to map locations of suitable habitat for underground colonies and locations of preferred forage plants in the Study Area. Future survey events should focus on potential underground colony sites, foraging habitat and areas between potential colony sites and foraging habitat. Because the purpose of the surveys is to detect western bumble bee, surveys should be completed during the active season (March 15th through September 30th) when bumble bees will be the most observable while they are foraging or seeking sites for a new colony.

- At least one follow-up survey shall be conducted by a qualified biologist during the western bumble bee active season to focus on foraging habitat and suitable underground refuge areas identified during the habitat assessment. For each survey event, the surveyor should spend at least one hour per 3-acre area surveying suitable habitat, based on survey protocols for the rusty patched bumble bee (*B. affinis*) (USFWS 2019). Surveyors should note other species of bumble bee, approximate number of each species and photographs of bumble bees should be taken to properly identify species of bumble bee present onsite (USFWS 2019). Surveys should be conducted within a year of project implementation for negative findings to remain valid. If western bumble bee is not identified in or immediately adjacent to the Study Area (within 25 feet), no further surveys or actions would be required. Results from the habitat assessment and follow-up surveys should be provided to CDFW. If a western bumble bee individual or colony is identified in the Study Area or within 25 feet, then a 25-foot setback should be implemented around the colony and consultation with CDFW may be necessary if the project activities will impact an active western bumble bee colony. Since the western bumble bee is a candidate species under CESA, incidental take coverage may be required for project-related impacts that will result in take of western bumble bee.

5.2.2 Monarch Butterflies

Project design should incorporate a 25-foot setback around milkweed habitat adjacent to and within the Study Area as these perennial herbs could provide larval habitat for Monarch butterfly during the summer breeding season (March 16 through October 31 [USFWS 2021]). As feasible, any construction activities associated with or within 25 feet of milkweed should occur outside of the summer breeding season (from approximately November 1 through March 15 [USFWS 2021]). This would reduce impacts to all larval butterflies. If construction activities will occur and directly or indirectly impact milkweed during the summer breeding for Monarch butterflies (approximately March 16 through October 31), pre-construction surveys should be conducted by a qualified biologist within one week prior to the onset of construction. If no Monarch butterfly life stage is identified in or immediately adjacent to the Study Area (within 25 feet), no further surveys or actions would be required. If a Monarch butterfly eggs, larvae, or chrysalis are identified in the Study Area or within 25 feet, then then a 25-foot setback should

be implemented and consultation with USFWS may be necessary if the project activities will impact occupied Monarch larval host plant habitat.

5.2.3 Nesting Migratory Birds and Raptors

Cooper's hawk, osprey and purple martin have the potential to forage and nest within the Study Area and other migratory birds and raptors protected under federal, State, and/or local laws and policies have potential to nest and forage within the Study Area. Although no active nests were observed during the field survey, the Study Area and adjacent properties contain suitable habitat to support a variety of nesting birds within trees, shrubs, grass, and on bare ground. If project activities take place during the nesting season (February 1 to August 31), nesting birds may be impacted. Construction activities and construction-related disturbance (e.g., noise, vibration, increased human activity) could adversely affect these species if they were to nest in the Study Area or in suitable habitat adjacent to Study Area through loss of reproductive success, forced fledging, or nest abandonment, which would be a potentially significant impact. If project activities take place outside of the nesting season, no mitigation measures for nesting birds are required. If project activities occur during the nesting season, the following measures are recommended to avoid or minimize impacts to nesting birds:

- To avoid impacts to nesting birds, all ground disturbing activity should be completed between September 1 and January 31, if feasible.

- A qualified biologist should conduct a pre-construction nesting bird survey no more than 14 days prior to initiation of project activities. The survey area should include suitable raptor nesting habitat within 500-feet of the project boundary (inaccessible areas outside of the Study Area can be surveyed from the site or from public roads using binoculars or spotting scopes). Areas that have been inactive for more than 14 days during the avian breeding season must be re-surveyed prior to resumption of project activities. If no active nests are identified, no further mitigation is required. If active nests are identified, the following measure should be implemented:

    - A species-specific buffer (typically 75-to 100-feet for non-raptor birds and 300-to 500-feet for raptors) should be established by a qualified biologist around active nests and no construction activities within the buffer should be allowed until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest, or the nest has failed). Encroachment into the buffer may occur at the discretion of a qualified biologist. Any encroachment into the buffer should be monitored by a qualified biologist to determine whether nesting birds are being impacted.

- A qualified biologist should conduct an environmental awareness training to all project-related personnel prior to the initiation of work. The training should follow the same guidelines as the special-status amphibians training described above.

5.2.4 Hoary Bat, Western Red Bat, and Silver-haired Bat

If these bat species are roosting in the Study Area at the time of construction, construction activities and construction-related disturbance (e.g., noise, vibration, increased human activity) could adversely affect hoary bat, western red bat, and silver-haired bat by direct harm, loss of roost tree(s), or by causing

individuals to leave the roost under suboptimal conditions and exposing them to stress or increased chance of predation, which would be a potentially significant impact. To avoid potential impacts to this species, the following measures are recommended:

A qualified wildlife biologist should conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., Anabat, etc.). The type of survey will depend on the condition of the potential roosting habitat. If no bat roosts are found, then no further study is required.

- If evidence of bat use is observed, then the number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts.

- If roosts are determined to be present and have the likelihood to be disturbed by construction, then a qualified biologist will determine if the bats should be excluded from the roosting site before work adjacent to the roost occurs. A mitigation program addressing compensation, exclusion methods, and roost removal procedures will be developed prior to implementation if exclusion is recommended. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

5.3 BIOLOGICAL COMMUNITIES

5.3.1 Sensitive Habitats

Sensitive habitats in the Study Area include one unnamed intermittent drainage. A 50-foot setback will be established from the intermittent drainage for all building development and septic system development as part of the site plan.

5.3.1.1 Aquatic Habitats

The intermittent drainage (1.66 acres and 1,153 linear feet) within the Study Area is likely to be considered a water of the U.S. and State subject to USACE and RWQCB jurisdiction under Sections 404 and 401 of the CWA as well as CDFW jurisdiction under Section 1600 of the Fish and Game Code. Canopy cover of the blue oak–foothill pine woodland along the intermittent drainage may also fall under CDFW jurisdiction under Section 1600 of the Fish and Game Code. If any impacts to the feature or associated oak canopy over the feature is expected, then a formal aquatic resources delineation should be submitted to the appropriate resource agencies to determine the extent of jurisdiction. In the event that any aquatic resources are determined to be jurisdictional, the project proponent will be required to apply for appropriate permits to fill aquatic resources and any mitigation measures contained in the permits will require implementation prior to filling any on-site features deemed subject to regulation.

If aquatic habitats are anticipated to be avoided during the implementation of project activities, then boundaries of these habitats should be clearly marked and avoided during construction. Highly visible material, such as orange construction fencing should be constructed at least 50-feet from the boundary

of these habitats to establish an appropriate no-disturbance buffer. Erosion control measures should also be implemented around these habitats and all other measures outlined in the Project's Storm Water Pollution Prevention Plan (SWPPP) and other general construction permits should be followed.

5.3.1.2 Protected Trees

Approximately 11.42 acres of blue oak–foothill pine habitat occurs in the Study Area. Protected trees under the City's tree ordinance within the Study Area include valley oak, interior live oak, and blue oak. Some protected trees will be impacted by the project. A tree permit shall be obtained from the City of Clearlake prior to removal of any protected trees and mitigation shall be completed as required by the City. Mitigation typically includes planting of replacement trees on or off-site in addition to the development of a tree replacement plan that will be reviewed and approved by the Clearlake Community Development Department.

6.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2022. *California Natural Diversity Database* (CNDDB); For: *Clearlake Oaks, Clearlake Highlands, Benmore Canyon, Wilbur Springs, Jericho Valley, Middletown, Whispering Pines, Lower Lake, and Wilson Valley Hill* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed September 14, 2022.

California Geologic Survey (CGS). 2010. 2010 Geologic Map of California Viewer. California Department of Conservation. Accessed September 20, 2022.

California Native Plant Society (CNPS). 2022. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.45) For: *Clearlake Oaks, Clearlake Highlands, Benmore Canyon, Wilbur Springs, Jericho Valley, Middletown, Whispering Pines, Lower Lake, and Wilson Valley* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed September 14, 2022.

2019. Report to the Fish and Game Commission: Evaluation of the Petition from the Xerces Society, Defenders of Wildlife and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act. April 2019. California Department of Fish and Wildlife, Sacramento, California, USA.

City of Clearlake. 2017. 2040 General Plan Update; City of Clearlake, California: Final. General Plan adopted February 28, 2017, by Resolution 2017-10.

De Groot, S., Gowen, D. and Robert W. Patterson. 2012. Eriastrum tracyi, in Jepson Flora Project (eds.) Jepson eFlora, Revision 3, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=24598, accessed September 20, 2022.

iNaturalist. 2023. iNaturalist Network: Western Bumble Bee (*Bombus occidentalis*). Accessed on April 3, 2023: https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=82371.

Koch, J., J. Strange, and P. Williams. 2012. Bumble bees of the Western United States. USDA-Forest Service, Pollinator Partnership. Washington, DC. 144 pp.

Google Earth. 2022. Historic maps of the Study Area. Accessed September 2022 at: https://earth.google.com.

Natural Resource Conservation Service (NRCS). 2022. Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available at: http://websoilsurvey.sc.egov.usda.gov/. Accessed September 14, 2022.

Nial K.R., Drizd, L. and Voorhies K.J. 2019. Butterflies Across the Globe: A Synthesis of the Current Status and Characteristics of Monarch (Danaus plexippus) Populations Worldwide. Front. Ecol. Evol. 7:362. doi: 10.3389/fevo.2019.00362

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

State Water Resources Control Board (SWRCB). 2019. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State [For inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California]*. Adopted April 2. Available at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf.

Thorp, R.W., D.S. Horning and L.L. Dunning. 1983. Bumble bees and cuckoo bumble bees of California (Hymenoptera: Apidae). Bulletin of the California Insect Survey 23: viii.

U.S. Fish and Wildlife Service (USFWS). 2022a. *Information for Planning and Consultation* (IPaC). *Burns Valley Subdivision Project, California.* Accessed September 14, 2022.

2022b. Proposed Rule–Endangered and Threatened Wildlife and Plants; Review of Species That Are Candidates for Listing as Endangered or Threatened; Annual Notification of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions. May 3, 2022. 87(85); 26152-26178.

2021. Western Monarch Butterfly Conservation Recommendations. October 15, 2021. Accessed September 30, 2022: https://xerces.org/sites/default/files/publications/21-015_02_USFWSWesternMonarchSec7ConsRecs_10.15.2021.pdf.

2019. Survey Protocols for the Rusty Patched Bumble Bee (*Bombus affinis*): Version 2.2. April 12, 2019. Accessed April 3, 2023: https://www.fws.gov/sites/default/files/documents/Survey_Protocols_RPBB_12April2019.pdf.

2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.

U.S. Geological Survey (USGS). 2022. *Lower Lake,* California. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Zeiner, D.C., W.F. Laudenslayer, and K.E. Mayer (eds.). 1990. California's wildlife. Volume I – III. California Statewide Wildlife Habitat Relationships System. Sacramento, CA: California Department of Fish and Game.

This page intentionally left blank

Appendix A

Applicable Sections of the City of Clearlake General Plan

CITY OF CLEARLAKE GENERAL PLAN

The objective of the General Plan (plan) is to provide guidance for decisions relating to the future use of land, community character and design, housing and neighborhoods, economic development, circulation and mobility, open space and recreation, resource conservation and management, and public facilities and services. The horizon of this plan is the Year 2040. Over this period, Clearlake will be facing many challenges in achieving its development goals. It is the intent of this plan that the policies and associated goals, objectives and recommended implementation strategies serve as a framework for community decision-making. To ensure growth that is both wise and sustainable, decisions must be based on a formulation of sound policy and founded by a comprehensive and integrated approach to analyzing community issues and identifying realistic solutions, as set forth in this plan. The plan was adopted by the City Council on February 28, 2017 (City of Clearlake 2017).

Chapter 5: Conservation

The Conservation Element describes water, forests, soils, rivers, harbors, fisheries, wildlife, minerals, cultural resources, and other natural resources. This element provides direction regarding the protection, management, and careful utilization of natural resources within a community and surrounding area.

California state law does not mandate the implementation of a Conservation Element as a chapter within the General Plan. Therefore, this element is considered an optional element. Stipulated by California Government Code Section 65303, a city or county may adopt “any elements or address any other subjects, which, in the judgment of the legislative body, relate to the physical development of the county or city.

The Conservation Element addresses the natural and cultural resources of Clearlake and the region in consideration of future community development. Specific measures and programs have been developed in this element to address challenges and conservation of geologic, minerals, soils, water, air and cultural.

Goal CO-1: Clean and safe lake conditions for wildlife, swimming, fishing, and boating.

Objective CO 1.1: Protect the quality of surface and groundwater resources.

Policy CO 1.1.1: Meet local, state, and federal standards for water quality.

- Program CO 1.1.1.1: The City should continue to participate in the Clear Lake Integrated Watershed Management Plan.

Objective CO 1.2: Prevent sediment erosion and nutrient loading of Clear Lake.

Policy CO 1.2.1: Conform to the requirements for allowable levels of drainage loading into the lake.

- Program CO 1.2.1.1: The City should implement policies and programs established in the Total Maximum Drainage Load Implementation into the Lake.

Goal CO-4: A diverse landscape where plant and wildlife habitats, open space, and natural resources are preserved and protected.

Objective CO 4.1: Protect all state and federally listed endangered and threatened species.

Policy CO 4.1.1: The City shall adhere to all federal and state requirements regarding the protection of endangered species.

Policy CO 4.1.2: The City shall limit the encroachment of development within areas that contain a high potential for sensitive habitat, and direct development into less significant habitat areas.

Policy CO 4.1.3: The City shall require that buildings and other forms of development be set back (City Standard) from riparian corridors to avoid damage to habitat.

Policy CO 4.1.4: The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats.

Policy CO 4.1.5: The City shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation, and ensure that a maximum number and variety of well-adapted plants are maintained.

Policy CO 4.1.7: The City shall utilize the California Environmental Quality Act (CEQA) as the primary regulatory tool for identifying and mitigating, where feasible, impacts to open space and natural resources when reviewing proposed development projects.

Objective CO 4.2: Prevent conversion of wildlife habitat into other land uses.

Policy CO 4.2.1: The City should conserve existing open space and prevent wildlife habitat and connecting corridor loss resulting from new development.

Policy CO 4.2.2: Promote clustered development in lieu of low-density dispersed development.

Objective CO 4.3: Maintain a diverse and natural landscape to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation, and ensure that a maximum number and variety of well-adapted plants are maintained.

Policy CO 4.3.1: The Lake County list of native vegetation should be included among the City's approved list of plants.

- Program CO 4.3.1.1: The City should develop a list of approved plants for use in new development.

Policy CO 4.3.2: In accordance with CEQA Guidelines Section 15125 and/or 15380, plants listed in the California Native Plant List at 1A (Plants Presumed Extirpated (Extinct) in California and Either Rare or Extinct Elsewhere) or 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere shall be considered potentially significant) shall be analyzed during preparation of environmental documents.

Goal CO-8: Enhanced intergovernmental coordination on conservation issues in Lake County.

Objective CO 8.1: Coordinate with regional agencies on management and protection of County resources.

Policy CO 8.1.1: Work with other government land management agencies to preserve and protect biological resources while maintaining the ability to utilize and enjoy the natural resources in the City.

- Program CO 8.1.1.1: The City should participate in the creation of an intergovernmental management team, which includes unincorporated and tribal communities.

- Program CO 8.1.1.2: The City should develop and prioritize a list of countywide conservation issues, which are heavily reliant on public comment and participation.

Chapter 6: Open Space

The Open Space Element guides the comprehensive and long-range preservation and conservation of open space in the City. This element provides direction regarding the management of the City's open space programs. The Open Space Element is one of the seven mandatory elements of the General Plan, according to Government Code §65302.

The most attractive attribute of the City is the visual open space of the lake, surrounding hills and mountains. Other open space includes active space for recreation, passive open space for visual enhancement and related connections, such as trails and sidewalks. In combination, open spaces throughout the City and surrounding areas serve to help define Clearlake's rural character.

Goal OS-6: A city that preserves and celebrates its environmental resources.

Objective OS 6.1: Preserve and maintain forested areas, fields, stream corridors, wetlands, and other open spaces that are within and surround the City.

Policy OS 6.1.1: The City should establish and preserve buffers between developed areas and forested areas, fields, stream corridors, wetlands, and other open spaces.

- Program OS 6.1.1.2: The City should use conservation design, clustering and infill, and non-traditional housing development patterns in order to prevent new development from encroaching on preserved and open space areas.

REFERENCES

City of Clearlake. 2017. 2040 General Plan Update; City of Clearlake, California: Final. General Plan adopted February 28, 2017 by Resolution 2017-10.

Appendix B

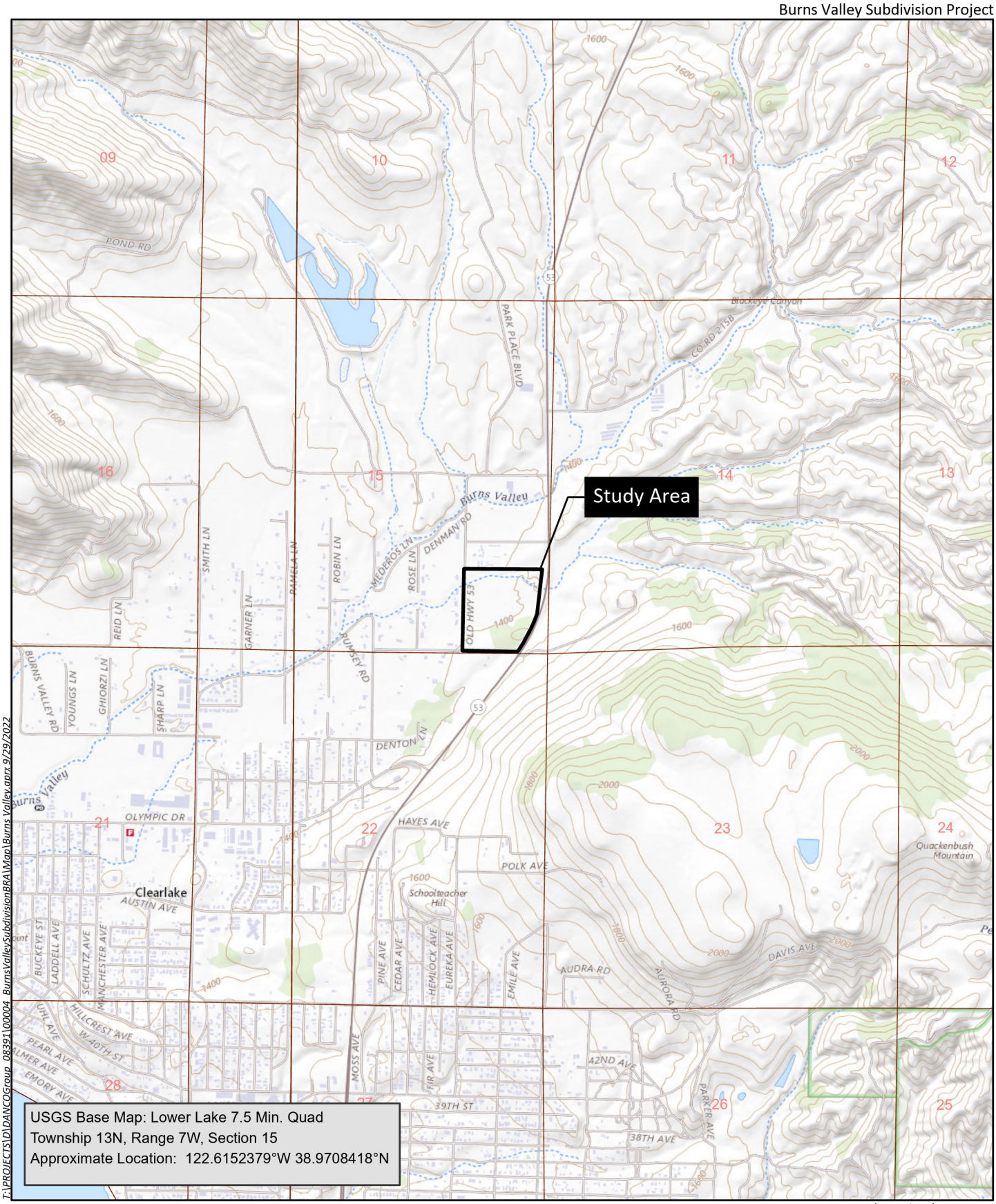
Figures

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



USGS Base Map: Lower Lake 7.5 Min. Quad
Township 13N, Range 7W, Section 15
Approximate Location: 122.6152379°W 38.9708418°N

T:\PROJECTS\DJDANCOGroup 08391\00004 BurnsValleySubdivisionBRA\Map\Burns Valley.aprx 9/29/2022

0 2,000 Feet

Source: USGS, The National Map, 2021

HELIX Environmental Planning

USGS Topographic Map

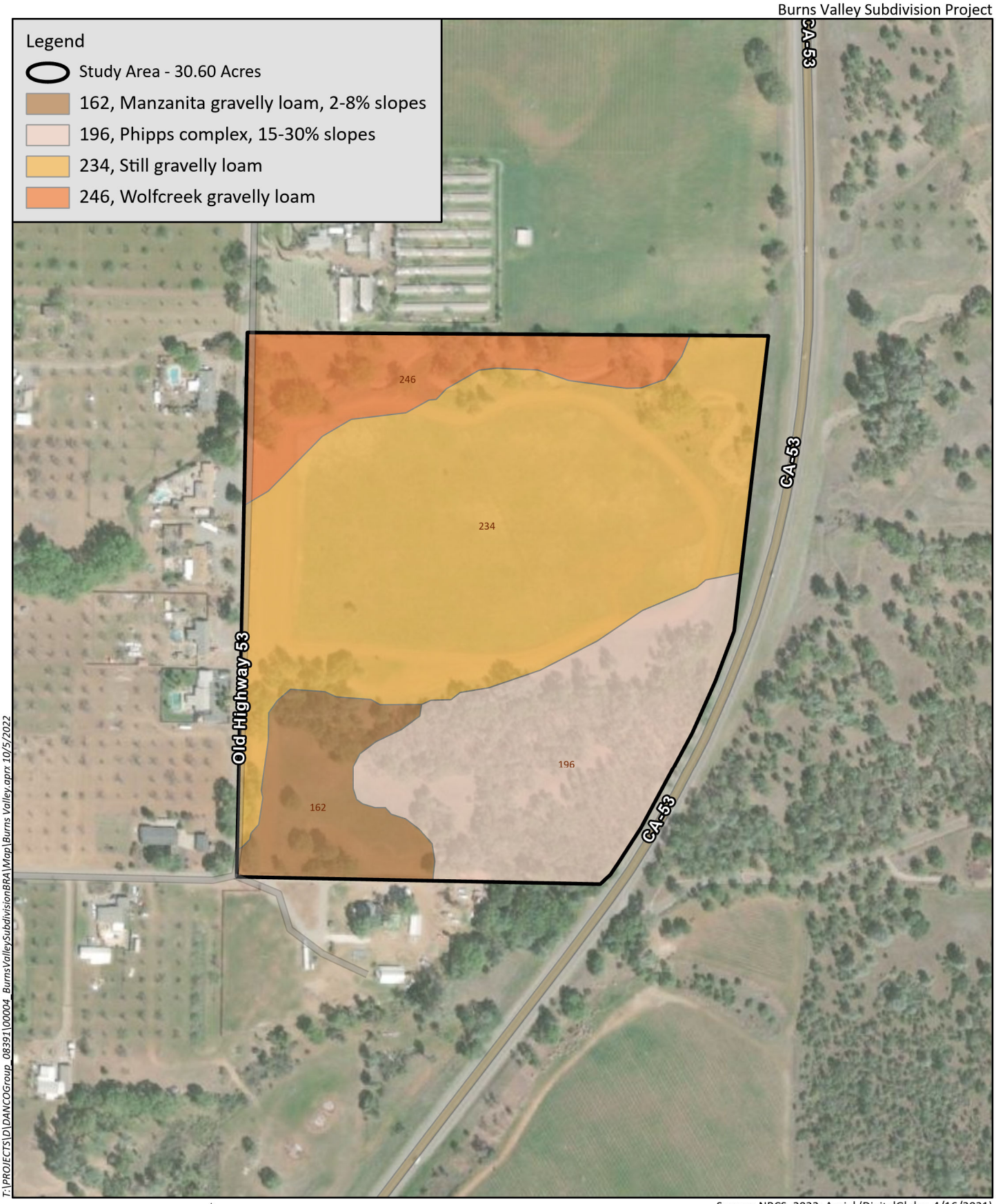
Figure 2

Source: Aerial (DigitalGlobe, 4/16/2021)

HELIX Environmental Planning

Aerial Map

Figure 3



T:\PROJECTS\D\DANCOGroup_083911\00004_BurnsValleySubdivisionBRA\Map\Burns Valley.aprx 10/5/2022

Source: NRCS, 2022; Aerial (DigitalGlobe, 4/16/2021)

HELIX Environmental Planning

Soils Map

Figure 4

T:\PROJECTS\D\DANCOGroup_083911\00004_BurnsValleySubdivisionBRA\Map\Burns Valley.aprx 10/12/2022

Source: Aerial (DigitalGlobe, 4/16/2021)

HELIX Environmental Planning

Biological Communities

Figure 5

Appendix C

Database Lists of Regionally Occurring Special-status Species

United States Department of the Interior

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

In Reply Refer To:
Project Code: 2022-0085422
Project Name: Burns Valley Subdivision Project

September 14, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0085422
Project Name: Burns Valley Subdivision Project
Project Type: Residential Construction
Project Description: Development
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.9707789,-122.61516213935454,14z

Counties: Lake County, California

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	
Few-flowered Navarretia *Navarretia leucocephala ssp. pauciflora (=N. pauciflora)*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8242	
Slender Orcutt Grass *Orcuttia tenuis*	Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1063	

Critical habitats

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

IPaC User Contact Information

Agency:	HELIX Environmental Planning, Inc.
Name:	Patrick Martin
Address:	11 Natomas Street
Address Line 2:	Suite 155
City:	Folsom
State:	CA
Zip:	95630
Email	patrickm@helixepi.com
Phone:	9163658700

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Lower Lake (3812285) OR Clearlake Highlands (3812286) OR Clearlake Oaks (3912216) OR Benmore Canyon (3912215) OR Wilbur Springs (3912214) OR Jericho Valley (3812274) OR Middletown (3812275) OR Whispering Pines (3812276) OR Wilson Valley (3812284))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAF02020	***Taricha rivularis*** red-bellied newt	None	None	G2	S2	SSC
AAAAH01020	***Dicamptodon ensatus*** California giant salamander	None	None	G2G3	S2S3	SSC
AAABH01022	***Rana draytonii*** California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01050	***Rana boylii*** foothill yellow-legged frog	None	Endangered	G3	S3	SSC
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC12040	***Accipiter cooperii*** Cooper's hawk	None	None	G5	S4	WL
ABNKC22010	***Aquila chrysaetos*** golden eagle	None	None	G5	S3	FP
ABNKD06090	***Falco mexicanus*** prairie falcon	None	None	G5	S4	WL
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABPAU01010	***Progne subis*** purple martin	None	None	G5	S3	SSC
AFCJB19011	***Lavinia exilicauda chi*** Clear Lake hitch	None	Threatened	G4T1	S1	
AFCQB07010	***Archoplites interruptus*** Sacramento perch	None	None	G1	S1	SSC
AFCQK02013	***Hysterocarpus traskii lagunae*** Clear Lake tule perch	None	None	G5T3	S3	SSC
AMACC01070	***Myotis evotis*** long-eared myotis	None	None	G5	S3	
AMACC01090	***Myotis thysanodes*** fringed myotis	None	None	G4	S3	
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G3G4	S3S4	
AMACC05030	***Lasiurus cinereus*** hoary bat	None	None	G3G4	S4	
AMACC05060	***Lasiurus blossevillii*** western red bat	None	None	G4	S3	SSC

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC08010	***Corynorhinus townsendii*** Townsend's big-eared bat	None	None	G4	S2	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
CARA2422CA	***Central Valley Drainage Rainbow Trout/Cyprinid Stream*** Central Valley Drainage Rainbow Trout/Cyprinid Stream	None	None	GNR	SNR	
CARA2520CA	***Clear Lake Drainage Resident Trout Stream*** Clear Lake Drainage Resident Trout Stream	None	None	GNR	SNR	
CTT42130CA	***Serpentine Bunchgrass*** Serpentine Bunchgrass	None	None	G2	S2.2	
CTT42300CA	***Wildflower Field*** Wildflower Field	None	None	G2	S2.2	
CTT44131CA	***Northern Basalt Flow Vernal Pool*** Northern Basalt Flow Vernal Pool	None	None	G3	S2.2	
CTT44133CA	***Northern Volcanic Ash Vernal Pool*** Northern Volcanic Ash Vernal Pool	None	None	G1	S1.1	
CTT52410CA	***Coastal and Valley Freshwater Marsh*** Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT83220CA	***Northern Interior Cypress Forest*** Northern Interior Cypress Forest	None	None	G2	S2.2	
IICOL5A010	***Dubiraphia brunnescens*** brownish dubiraphian riffle beetle	None	None	G1	S1	
IICOL5S030	***Ochthebius recticulus*** Wilbur Springs minute moss beetle	None	None	G1	S1	
IIDIP13010	***Paracoenia calida*** Wilbur Springs shore fly	None	None	G1	S1	
IIHEM07010	***Saldula usingeri*** Wilbur Springs shorebug	None	None	G1	S2	
IIHYM24250	***Bombus occidentalis*** western bumble bee	None	None	G2G3	S1	
IIHYM68020	***Hedychridium milleri*** Borax Lake cuckoo wasp	None	None	G1	S1	
IMBIV19010	***Gonidea angulata*** western ridged mussel	None	None	G3	S1S2	
IMGASJ0F40	***Pyrgulopsis ventricosa*** Clear Lake pyrg	None	None	G1	S1	
NBMUS32330	***Grimmia torenii*** Toren's grimmia	None	None	G2	S2	1B.3

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
NBMUS4Q022	***Mielichhoferia elongata*** elongate copper moss	None	None	G5	S3S4	4.3
PDAPI0Z0W0	***Eryngium constancei*** Loch Lomond button-celery	Endangered	Endangered	G1	S1	1B.1
PDAST11061	***Balsamorhiza macrolepis*** big-scale balsamroot	None	None	G2	S2	1B.2
PDAST3M5G0	***Erigeron greenei*** Greene's narrow-leaved daisy	None	None	G3	S3	1B.2
PDAST4R065	***Hemizonia congesta ssp. congesta*** congested-headed hayfield tarplant	None	None	G5T2	S2	1B.2
PDAST4R0P2	***Centromadia parryi ssp. parryi*** pappose tarplant	None	None	G3T2	S2	1B.2
PDAST5L010	***Lasthenia burkei*** Burke's goldfields	Endangered	Endangered	G1	S1	1B.1
PDAST5N0F0	***Layia septentrionalis*** Colusa layia	None	None	G2	S2	1B.2
PDAST650A0	***Harmonia hallii*** Hall's harmonia	None	None	G2?	S2?	1B.2
PDBOR01070	***Amsinckia lunaris*** bent-flowered fiddleneck	None	None	G3	S3	1B.2
PDBOR0A0H2	***Cryptantha dissita*** serpentine cryptantha	None	None	G3	S3	1B.2
PDBOR0A0W0	***Cryptantha excavata*** deep-scarred cryptantha	None	None	G1	S1	1B.1
PDBRA2G071	***Streptanthus brachiatus ssp. hoffmanii*** Freed's jewelflower	None	None	G2T2	S2	1B.2
PDBRA2G072	***Streptanthus brachiatus ssp. brachiatus*** Socrates Mine jewelflower	None	None	G2T1	S1	1B.2
PDBRA2G0S4	***Streptanthus morrisonii ssp. kruckebergii*** Kruckeberg's jewelflower	None	None	G2T1	S1	1B.2
PDBRA2G510	***Streptanthus hesperidis*** green jewelflower	None	None	G2G3	S2S3	1B.2
PDCAB01010	***Brasenia schreberi*** watershield	None	None	G5	S3	2B.3
PDCAM060E0	***Downingia willamettensis*** Cascade downingia	None	None	G4	S2	2B.2
PDCAM0C010	***Legenere limosa*** legenere	None	None	G2	S2	1B.1
PDCHE041F3	***Extriplex joaquinana*** San Joaquin spearscale	None	None	G2	S2	1B.2
PDCON04032	***Calystegia collina ssp. oxyphylla*** Mt. Saint Helena morning-glory	None	None	G4T3	S3	4.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDCON04036	***Calystegia collina ssp. tridactylosa*** three-fingered morning-glory	None	None	G4T1	S1	1B.2
PDCPR07080	***Viburnum ellipticum*** oval-leaved viburnum	None	None	G4G5	S3?	2B.3
PDCRA0F020	***Sedella leiocarpa*** Lake County stonecrop	Endangered	Endangered	G1	S1	1B.1
PDERI041G2	***Arctostaphylos stanfordiana ssp. raichei*** Raiche's manzanita	None	None	G3T2	S2	1B.1
PDERI04271	***Arctostaphylos manzanita ssp. elegans*** Konocti manzanita	None	None	G5T3	S3	1B.3
PDFAB0F7E1	***Astragalus rattanii var. jepsonianus*** Jepson's milk-vetch	None	None	G4T3	S3	1B.2
PDFAB2B3J0	***Lupinus sericatus*** Cobb Mountain lupine	None	None	G2?	S2?	1B.2
PDFAB2B4E0	***Lupinus milo-bakeri*** Milo Baker's lupine	None	Threatened	G1Q	S1	1B.1
PDFAB400R5	***Trifolium hydrophilum*** saline clover	None	None	G2	S2	1B.2
PDLIN01010	***Hesperolinon adenophyllum*** glandular western flax	None	None	G2G3	S2S3	1B.2
PDLIN01020	***Hesperolinon bicarpellatum*** two-carpellate western flax	None	None	G2	S2	1B.2
PDLIN01070	***Hesperolinon didymocarpum*** Lake County western flax	None	Endangered	G1	S1	1B.2
PDLIN01090	***Hesperolinon drymarioides*** drymaria-like western flax	None	None	G2	S2	1B.2
PDLIN010E0	***Hesperolinon sharsmithiae*** Sharsmith's western flax	None	None	G2Q	S2	1B.2
PDMAL110D0	***Sidalcea keckii*** Keck's checkerbloom	Endangered	None	G2	S2	1B.1
PDMAL110K2	***Sidalcea oregana ssp. hydrophila*** marsh checkerbloom	None	None	G5T2	S2	1B.2
PDPGN08440	***Eriogonum nervulosum*** Snow Mountain buckwheat	None	None	G2	S2	1B.2
PDPLM030C0	***Eriastrum tracyi*** Tracy's eriastrum	None	Rare	G3Q	S3	3.2
PDPLM030H0	***Eriastrum brandegeeae*** Brandegee's eriastrum	None	None	G1Q	S1	1B.1
PDPLM09140	***Leptosiphon jepsonii*** Jepson's leptosiphon	None	None	G2G3	S2S3	1B.2
PDPLM0C0E1	***Navarretia leucocephala ssp. bakeri*** Baker's navarretia	None	None	G4T2	S2	1B.1

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDPLM0C0E4	***Navarretia leucocephala ssp. pauciflora*** few-flowered navarretia	Endangered	Threatened	G4T1	S1	1B.1
PDPLM0C0E5	***Navarretia leucocephala ssp. plieantha*** many-flowered navarretia	Endangered	Endangered	G4T1	S1	1B.2
PDPLM0C0J2	***Navarretia nigelliformis ssp. radians*** shining navarretia	None	None	G4T2	S2	1B.2
PDPLM0C160	***Navarretia paradoxinota*** Porter's navarretia	None	None	G2	S2	1B.3
PDRHA04220	***Ceanothus confusus*** Rincon Ridge ceanothus	None	None	G1	S1	1B.1
PDRHA04240	***Ceanothus divergens*** Calistoga ceanothus	None	None	G2	S2	1B.2
PDROS0W011	***Horkelia bolanderi*** Bolander's horkelia	None	None	G1	S1	1B.2
PDSCR0D482	***Castilleja rubicundula var. rubicundula*** pink creamsacs	None	None	G5T2	S2	1B.2
PDSCR0R060	***Gratiola heterosepala*** Boggs Lake hedge-hyssop	None	Endangered	G2	S2	1B.2
PDSCR1L483	***Penstemon newberryi var. sonomensis*** Sonoma beardtongue	None	None	G4T3	S3	1B.3
PDSCR2S070	***Antirrhinum subcordatum*** dimorphic snapdragon	None	None	G3	S3	4.3
PMCYP03B20	***Carex praticola*** northern meadow sedge	None	None	G5	S2	2B.2
PMLIL0C0K3	***Brodiaea rosea*** Indian Valley brodiaea	None	Endangered	G2Q	S2	3.1
PMLIL0G042	***Chlorogalum pomeridianum var. minus*** dwarf soaproot	None	None	G5T3	S3	1B.2
PMLIL0V0F0	***Fritillaria pluriflora*** adobe-lily	None	None	G2G3	S2S3	1B.2
PMPOA24028	***Panicum acuminatum var. thermale*** Geysers panicum	None	Endangered	G5T2Q	S2	1B.2
PMPOA3D020	***Imperata brevifolia*** California satintail	None	None	G3	S3	2B.1
PMPOA4G050	***Orcuttia tenuis*** slender Orcutt grass	Threatened	Endangered	G2	S2	1B.1
PMPOA53110	***Puccinellia simplex*** California alkali grass	None	None	G2	S2	1B.2
PMPOT03160	***Potamogeton zosteriformis*** eel-grass pondweed	None	None	G5	S3	2B.2

Record Count: 102

Search Results

9 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [**1A:1B:2A:2B:3**] , 9-Quad include [**3912216:3812286:3912215:3912214:3812274:3812275:3812276:3812285:3812284**], Elevation above **250 feet**, Elevation below **2500 feet**

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Astragalus rattanii var. *jepsonianus*	Jepson's milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2	No Photo Available
Cryptantha dissita	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G3	S3	1B.2	 ©2019 Terry Gosliner
Cryptantha excavata	deep-scarred cryptantha	Boraginaceae	annual herb	Apr-May	None	None	G1	S1	1B.1	No Photo Available
Hesperolinon didymocarpum	Lake County western flax	Linaceae	annual herb	May-Jul	None	CE	G1	S1	1B.2	 © 2018 Aaron Arthur
Hesperolinon sharsmithiae	Sharsmith's western flax	Linaceae	annual herb	May-Jul	None	None	G2Q	S2	1B.2	 © 2017 Aaron Arthur
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	None	None	G2G3	S2S3	1B.2	 © 2012 Aaron Arthur
Lupinus milo-bakeri	Milo Baker's lupine	Fabaceae	annual herb	Jun-Sep	None	CT	G1Q	S1	1B.1	No Photo Available
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	None	None	G2Q	S2	3.3	 © 2017 Keir Morse
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	May-Jul	None	None	G2G3	S2S3	1B.2	No Photo Available

Showing 1 to 9 of 9 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 14 September 2022].

Appendix D

Plant and Wildlife Species Observed in the Study Area

Family	Species Name	Common Name
Native		
Agavacea	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak
Apiaceae	*Lomatium californicum*	Celery weed
Apocynaceae	*Asclepias eriocarpa*	Indian milkweed
Asteraceae	*Achillea millefolium*	Common yarrow
	Baccharis pilularis	Coyote bush
	Brickellia californica	California brickellia
	Calycadenia multiglandulosa	Rosin weed
	Holocarpha virgata	Narrow tarplant
	Pseudognaphalium canescens	Wright's cudweed
	Yehia angustifolia	Narrow leaf mules ear
Caprifoliaceae	*Lonicera interrupta*	Chaparral honeysuckle
Ericaceae	*Arctostaphylos glandulosa*	Eastwood manzanita
Fagaceae	*Quercus douglasii*	Blue oak
	Quercus lobata	Valley oak
	Quercus wislizeni	Interior live oak
Iridaceae	*Iris macrosiphon*	Ground iris
Lamiaceae	*Trichostema lanceolatum*	Vinegarweed
Namaceae	*Eriodictyon californicum*	Yerba santa
Onagraceae	*Epilobium brachycarpum*	Fireweed
Papaveraceae	*Eschscholzia californica*	California poppy
Pinaceae	*Pinus sabiniana*	Gray pine
Plantaginaceae	*Penstemon heterophyllus*	Foothill penstemon
Poaceae	*Elymus glaucus*	Blue wildrye
	Elymus elymoides	Squirrel tail grass
	Hordeum brachyantherum	Meadow barley
	Melica californica	California melic
	Stipa pulchra	Purple needle grass
Polygonaceae	*E*riogonum dasyanthermum	Chaparral buckwheat
	Eriogonum nudum	Naked buckwheat
Rhamnaceae	*Ceanothus cuneatus*	Buck brush
	Rhamnus crocea	Redberry buckthorn
Rosaceae	*Adenostoma fasciculatum*	Chamise
	Cercocarpus betuloides	Birch-leaf mountain mahogany
	Heteromeles arbutifolia	Toyon
Sapindaceae	*Aesculus californica*	California buckeye
Viburnaceae	*Sambucus mexicana*	Elderberry
Non-native		
Apiaceae	*Torilis arvensis*	Field hedge parsley
Asteraceae	*Carduus pycnocephalus*	Italian thistle
	Centaurea solstitialis	Yellow star-thistle
	Xanthium strumarium	Rough cocklebur
Brassicaceae	*Brassica nigra*	Black mustard
Lamiaceae	*Marrubium vulgare*	White horehound
Myrtaceae	*Eucalyptus globulus*	Blue gum

Family	Species Name	Common Name
Poaceae	*Aegilops cylindrica*	Jointed goat grass
	Avena barbata	Slender oats
	Brachypodium distachyon	Purple false brome
	Bromus diandrus	Ripgut brome
	Bromus hordeaceus	Soft brome
	Cynosurus echinatus	Dogtail grass
	Elymus caput-medusae	Medusahead
	Phalaris aquatica	Harding grass
Polygonaceae	*Rumex crispus*	Curly Dock
Rosaceae	*Prunus* spp.	Plum
Solanaceae	*Nicotiana acuminata*	Tobacco
Reptiles		
Phrynosomatidae	*Sceloporus occidentalis*	Western Fence Lizard
Birds		
Cathartidae	*Cathartes aura*	Turkey Vulture
Columbidae	*Zenaida macroura*	Mourning Dove
Corvidae	*Aphelocoma californica*	California Scrub Jay
	Corvus corax	Common raven
Fringillidae	*Haemorhous mexicanus*	House Finch
	Spinus psaltria	Lesser Goldfinch
Paridae	*Baeolophus inornatus*	Oak Titmouse
Passerellidae	*Melozone crissalis*	California Towhee
Picidae	*Melanerpes formicivorus*	Acorn Woodpecker
	Dryobates nuttallii	Nuttall's Woodpecker
Sittidae	*Sitta carolinensis*	White-breasted Nuthatch
Trochilidae	*Calypte anna*	Anna's Hummingbird
Turdidae	*Sialia mexicana*	Western Bluebird
Tyrannidae	*Sayornis nigricans*	Black Phoebe

Appendix E

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

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Plants			
Amsinckia lunaris bent-flowered fiddleneck	--/--/1B.2	An annual herb found in gravelly slopes, openings in cismontane woodland, and valley and foothill grassland from 5 – 800 meters elevation. Blooms March – June (Kelley and Ganders 2012).	**May occur.** Suitable habitat is present in annual grasslands and woodlands in the Study Area. The nearest CNDDB reported occurrence is located one mile north of the Study Area (CDFW 2022).
Astragalus rattanii var. *jepsonianus* Jepson's milkvetch	--/--/1B.2	An annual herb found in chaparral, cismontane woodland, and valley and foothill grassland from 295 – 700 meters elevation, often on serpentine soils. Blooms March – June (CNPS 2022).	**Will not occur.** Suitable serpentinite soils are not present in the Study Area, which is derived from alluvium that consists of gravelly loam to gravelly and sandy clay that is derived from sedimentary rock such as mudstone and sandstone. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Arctostaphylos manzanita ssp. *elegans* Konocti manzanita	--/--/1B.3	A perennial evergreen shrub found on volcanic soils in chaparral, cismontane woodland, and lower montane coniferous forest 395 – 1,615 meters elevation. Blooms (January) March – May (July) (CNPS 2022).	**Will not occur.** There is no suitable habitat or suitable soil for this species on the Study Area and this species was not observed during the biological survey. A common species of manzanita (*Arctostaphylos glandulosa*) was documented in the Study Area.
Arctostaphylos stanfordiana ssp. *decumbens* Raiche's manzanita	--/--/1B.1	A perennial evergreen shrub found in rhyolitic chaparral and cismontane woodlands from 75 – 370 meters elevation on mountain ridges and summits. Blooms February – April (May) (CNPS 2022).	**Will not occur.** There is no suitable habitat or suitable soil for this species on the Study Area and this species was not observed during the biological survey. A common species of manzanita (*Arctostaphylos glandulosa*) was documented in the Study Area.
Balsamorhiza macrolepis big-scale balsamroot	--/--/1B.2	A perennial herb found on slopes in chaparral, cismontane woodland, and valley and foothill grassland, sometimes in serpentine soil. Elevation range 45 – 1,555 meters. Blooms March – June (CNPS 2022).	**Will not occur.** Suitable serpentinite soils and slope habitats are not present in the Study Area. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Brasenia schreberi watershield	--/--/2B.3	A rhizomatous aquatic herb found in freshwater marshes and swamps from 30 – 2,200 meters elevation. Blooms June to September (CNPS 2022).	**Will not occur.** There is no suitable aquatic habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Brodiaea rosea Indian Valley brodiaea	--/SE/3.1	A perennial bulbiferous herb found in chaparral, closed-cone coniferous forest, cismontane woodland, and valley and foothill grassland from 335 – 1,450 meters elevation, usually on serpentine soils. Formerly considered a more narrowly distributed serpentine endemic but recently expanded to include more common, non-serpentine taxa. Blooms May – June (CNPS 2022).	**Will not occur.** Suitable serpentinite soils and slope habitats are not present in the Study Area. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Calystegia collina ssp. *tridactylosa* three-fingered morning-glory	--/--/1B.2	A perennial rhizomatous herb found on rocky or gravelly serpentine soils in openings in chaparral and cismontane woodland from 0 – 600 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** Suitable serpentinite soil habitat is not present in the Study Area. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Carex praticola northern meadow sedge	--/--/2B.2	A perennial herb found in mesic meadows and seeps from 0 – 3,200 meters elevation. Blooms May – July (CNPS 2022).	**Will not occur.** There is no suitable mesic habitat for this species in the Study Area.
Castilleja rubicundula ssp. rubicundula pink creamsacs	--/--/1B.2	An annual herb found on serpentine soils in chaparral, cismontane woodland, meadows, seeps, and valley and foothill grassland from 20 – 910 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** Suitable serpentinite soils and seep habitats are not present in the Study Area. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Ceanothus confusus Rincon Ridge ceanothus	--/--/1B.1	A perennial evergreen shrub found on volcanic or serpentine soils in closed-cone coniferous forest, chaparral, and cismontane woodland from 75 – 1,065 meters elevation. Blooms February – June (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Ceanothus divergens Calistoga ceanothus	--/--/1B.2	A perennial evergreen shrub found on rocky volcanic or serpentine soils in chaparral from 170 – 950 meters elevation. Blooms February – April (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Centromadia parryi ssp. *parryi* pappose tarplant	--/--/1B.2	An annual herb found in chaparral, coastal prairie, meadows, seeps, coastal salt marshes, and vernally mesic valley and foothill grassland from 0 – 420 meters elevation, often in alkaline microsites. Blooms May – November (CNPS 2022).	**Will not occur.** Suitable mesic and alkaline soil habitats are not present in the Study Area. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Chlorogalum pomeridianum var. *minus* dwarf soaproot	--/--/1B.2	A perennial bulbiferous herb found on serpentine soils in chaparral from 305 – 1,000 meters elevation. Blooms May – August (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area. The common soaproot (*Chlorogalum pomeridianum* var. *pomeridianum*) was detected in the Study Area. There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022).
Cryptantha dissita Serpentine cryptantha	--/--/1B.2	An annual herb found on serpentine soils in chaparral from 395 – 580 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Cryptantha excavata deep-scarred cryptantha	--/--/1B.1	An annual herb found on sandy or gravelly soils is cismontane woodland from 100 – 500 meters elevation. Currently known from only five extant locations. Blooms April – May (CNPS 2022).	**Will not occur.** Suitable soil and habitat is present for this species in the Study Area, however this species is not known to occur in Lake County (CNPS 2022). There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2022). This species has a very limited distribution (CNPS 2022).
Downingia willamettensis Cascade downingia	--/--/2B.2	An annual herb found along lake margins in cismontane woodlands, valley and foothill grasslands, and vernal pools from 15 – 1,110 meters elevation. Blooms June -July (September) (CNPS 2022).	**Will not occur.** There is no suitable aquatic habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Eriastrum brandegeeae Brandegee's eriastrum	--/--/1B.1	An annual or perennial herb found in volcanic sandy soils in chaparral and cismontane woodland from 460 – 855 meters in elevation. Blooms April – August (CNPS 2022).	**Will not occur.** There is no suitable volcanic soil habitat for this species in the Study Area. The Study Area consists of sedimentary rocks derived from alluvium (California Geologic Survey (CGS) 2010; NRCS 2022). There are several CNDDB reported occurrences located two miles west of the Study Area in soil that is documented as volcanic and metavolcanic soil (CGS 2010). The CNDDB records document observations from 1977 and 2006, however the 2006 record was uncertain as to the identification of the species (CDFW 2022).
Eriastrum tracyi Tracy's eriastrum	--/SR/3.2	An annual herb found in open areas in chaparral, cismontane woodland, and valley and foothill grassland from 400 – 1,000 meters elevation. This species prefers shale and/or alluvium soils. Taxonomy of the species is uncertain. Blooms May – August (De Groot et al. 2012).	**May occur.** Suitable habitat for this species is present in the Study Area, which prefers alluvium derived from shale and other sedimentary rocks. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area.
Erigeron greenei Greene's narrow-leaved daisy	--/--/1B.2	A perennial herb found on serpentine or volcanic soils in chaparral from 80 – 1,005 meters elevation. Blooms May – September (CNPS 2022).	**Will not occur.** There is suitable soil habitat for this species in the Study Area.
Eriogonum nervulosum Snow Mountain buckwheat	--/--/1B.2	A perennial rhizomatous herb found on serpentine soils in chaparral from 300 – 2,105 meters elevation. Currently known from only nine extant locations. Blooms June – September (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Eryngium constancei Loch Lomond button-celery	FE/SE/1B.1	An annual or perennial herb found in vernal pools from 460 – 855 meters elevation. Known from 4 occurrences. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable vernal pool habitat for this species on the Study Area. There is one CNDDB reported occurrence located approximately 4.5 miles south of the Study Area. The CNDDB record is from 1997 and documents this species in a vernal pool (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Extriplex joaquinana San Joaquin spearscale	--/--/1B.2	An annual herb found in alkaline habitats in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland from 1 – 835 meters elevation. Blooms April – October (CNPS 2022).	**Will not occur.** There is no suitable alkaline soil habitat for this species in the Study Area. Soil in the Study is neutral to slightly acidic (NRCS 2022).
Fritillaria pluriflora adobe-lily	--/--/1B.2	A bulbiferous herb found in chaparral, cismontane woodland, and valley and foothill grassland from 60 – 705 meters elevation, often on adobe soils. Blooms February – April (CNPS 2022).	**Will not occur.** There is no suitable heavy clay soil habitat for this species in the Study Area.
Gratiola heterosepala Boggs Lake hedge-hyssop	--/SE/1B.2	An annual herb found on clay soils in marshes and swamps at lake margins, and in vernal pools from 10 – 2,375 meters elevation. Blooms April – August (CNPS 2022).	**Will not occur.** There is no suitable aquatic habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area.
Grimmia torenii Toren's grimmia	--/--/1B.3	A moss found in rocky openings and boulder and rock walls, on carbonate or volcanic substrates, in chaparral, cismontane woodland, and lower montane coniferous forest from 325 – 1,160 meters elevation. No blooming period (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area. There are no CNDDB records within a 5-mile radius of the Study Area (CDFW 2022).
Harmonia hallii Hall's harmonia	--/--/1B.2	An annual herb found on serpentine soils in chaparral from 305 – 975 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Hemizonia congesta ssp. *congesta* Congested-headed hayfield tarplant	--/--/1B.2	An annual herb found on valley and foothill grassland, and roadsides. Elevation range is 20 – 560 meters elevation. Blooms April – November (CNPS 2022).	**Presumed absent.** Suitable habitat is present for this species in grasslands and roadsides. However, this species was not observed during a site visit on September 15, 2022, when this species would have been in bloom. There are no CNDDB records within a 5-mile radius of the Study Area (CDFW 2022).
Hesperolinon adenophyllum glandular western flax	--/--/1B.2	An annual herb usually found on serpentinite soils in chaparral, cismontane woodlands, and valley and foothill grasslands from 150 – 1,315 meters elevation. Blooms May – August (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Hesperolinon bicarpellatum two-carpellate western flax	--/--/1B.2	An annual herb found on serpentine soils in chaparral from 60 – 1,005 meters elevation. Blooms May – July (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Hesperolinon didymocarpum Lake County western flax	--/SE/1B.2	A perennial herb found in chaparral and cismontane woodland on Ione formation soils and other soils from 80 – 1,070 meters elevation. Blooms May – July (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Hesperolinon sharsmithiae Sharsmith's western flax	--/--/1B.2	An annual herb found on serpentine soils in chaparral from 270 - 300 meters elevation. Not included in Baldwin et al. (2012). Blooms May – July (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Horkelia bolanderi Bolander's horkelia	--/--/1B.2	A perennial herb found at the edges of vernally mesic areas in chaparral, lower montane coniferous forest, meadows, seeps, and valley and foothill grassland from 450 – 1,100 meters elevation. Blooms (May) June – August (CNPS 2022).	**Will not occur.** There is no suitable vernally mesic habitat for this species in the Study Area.
Imperata brevifolia California satintail	--/--/2B.1	A perennial rhizomatous herb found in mesic microsites in chaparral, coastal scrub, Mojavean desert scrub, riparian scrub, and alkaline meadows and seeps from 0 – 1,215 meters elevation. Blooms September – May (CNPS 2022).	**Will not occur.** There is no suitable mesic microhabitat for this species in the Study Area.
Lasthenia burkei Burke's goldfields	FE/SE/1B.1	An annual herb found in mesic meadows and vernal pools from 15 – 600 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable wetland habitat for this species in the Study Area.
Layia septentrionalis Colusa layia	--/--/1B.2	An annual herb found on sandy serpentine soils in chaparral, cismontane woodland, and valley and foothill grassland from 100 – 1,095 meters elevation. Blooms April – May (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.
Legenere limosa legenere	--/--/1B.1	An annual herb found in vernal pools from 1 – 880 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable wetland habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Leptosiphon jepsonii Jepson's leptosiphon	--/--/1B.2	An annual herb usually found on volcanic soils in chaparral, cismontane woodlands, and valley and foothill grasslands from 100 – 500 meters elevation. Blooms March – May (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area.
Lupinus milo-bakeri Milo Baker's lupine	--/ST/2B.1	An annual herb found in cismontane woodland and valley and foothill grassland from 395 – 430 meters, often along roadsides. Blooms June – September (CNPS 2022). This species is only found in Round Valley in Mendocino County, near the community of Covelo.	**Will not occur.** The Study Area is outside of this species' known range. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area.
Lupinus sericatus Cobb Mountain lupine	--/--/1B.2	A perennial herb found in chaparral, broadleafed upland forest, cismontane woodland, and lower montane coniferous forest from 275 – 1,525 meters elevation. Blooms March – June (CNPS 2022).	**May occur.** Suitable habitat is present for this species in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area.
Malacothamnus helleri Heller's bush-mallow	--/--/3.3	A perennial deciduous shrub found on sandstone substrates in chaparral and gravel substrates in riparian woodland from 305 – 635 meters elevation. Synonymous with more common *M. fremontii* in Baldwin et al. (2012). Blooms May – July (CNPS 2022).	**Presumed absent.** Suitable habitat is present for this species in gravelly soil along an intermittent drainage. However, this species was not observed during a site visit on September 15, 2022, when this species would have been identifiable. There are no CNDDB records within a 5-mile radius of the Study Area (CDFW 2022).
Navarretia leucocephala ssp. bakeri Baker's navarretia	--/--/1B.1	An annual herb found in mesic meadows and vernal pools in cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from 5 – 1,740 meters elevation. Blooms April – July (CNPS 2022).	**Will not occur.** There is no suitable vernal pool habitat for this species in the Study Area. A CNNDB reported occurrence in the Study Area shows a nonspecific area near the Study Area from 1945 that has not been field verified by CDFW (CDFW 2022).
Navarretia leucocephala ssp. *pauciflora* few-flowered navarretia	FE/ST/1B.1	An annual herb found in vernal pools on volcanic ash flow soils from 400 – 855 meters elevation. Blooms May – June (CNPS 2022).	**Will not occur.** There is no suitable wetland or volcanic soil habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Navarretia leucocephala ssp. *plientha* many-flowered navarretia	FE/SE/1B.2	An annual herb found in vernal pools on volcanic ash flow soils from 30 – 950 meters elevation. Blooms May – June (CNPS 2022).	**Will not occur.** There is no suitable wetland or volcanic soil habitat for this species in the Study Area.
Navarretia nigelliformis ssp. *radians* shining navarretia	--/--/1B.2	An annual herb found in vernal pools and on clay soils in cismontane woodland and valley and foothill grassland from 65 – 1,000 meters elevation. Blooms (March) April – July (CNPS 2022).	**Will not occur.** There is no suitable wetland habitat for this species in the Study Area.
Navarretia paradoxinota Porter's navarretia	--/--/1B.3	An annual herb found on serpentine soils in vernally mesic openings and drainages from 165 – 840 meters elevation. Blooms May – June (July) (CNPS 2022).	**Will not occur.** There is no suitable wetland or soil habitat for this species in the Study Area.
Orcuttia tenuis slender Orcutt grass	FT/SE/1B.1	An annual herb found in vernal pools from 35 – 1,760 meters elevation. Blooms May to October (CNPS 2022).	**Will not occur.** There is no suitable vernal pool habitat for this species in the Study Area.
Panicum acuminatum var. *thermale* Geysers panicum	--/SE/1B.2	An annual/perennial herb found along streambanks in closed-cone coniferous forests, riparian forests, valley and foothill grasslands from 305 – 2,470 meters elevation. Blooms June – August (CNPS 2022).	**Will not occur.** There is no suitable riparian/streambank habitat for this species in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	--/--/1B.3	A perennial herb found in rocky microsites in chaparral 700 – 1,370 meters elevation. Blooms April – August (CNPS 2022).	**Will not occur.** The Study Area is located below the elevational range of this species. Rocky microsites are also absent for this species.
Potamogeton zosteriformis eel-grass pondweed	--/--/2B.2	An annual aquatic herb found in assorted freshwater habitats throughout the Central Valley from 0 – 1,860 meters elevation. Blooms June – July (CNPS 2022).	**Will not occur.** There is no suitable aquatic habitat for this species in the Study Area. A CNNDB reported occurrence is located in the Study Area, however this record was intended to be mapped in Clear Lake and this record is a nonspecific location from 1945 (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Puccinellia simplex California alkali grass	--/--/1B.2	An annual herb found in alkaline, vernally mesic sinks, flats, and lake margins in chenopod scrub, meadows, seeps, vernal pools, and valley and foothill grasslands from 2 – 930 meters elevation. Blooms March – May (CNPS 2022).	**Will not occur.** There is no suitable aquatic or alkaline habitat for this species in the Study Area.
Sedella leiocarpa Lake County Stonecrop	FE/SE/1B.1	An annual herb found in vernal pools on volcanic outcrops in cismontane woodlands, valley and foothill grasslands from 365 – 790 meters elevation. Blooms April – May (CNPS 2022).	**Will not occur.** There is no suitable vernal pool habitat for this species in the Study Area.
Sidalcea keckii Keck's checker mallow	FE/--/1B.1	An annual herb found in cismontane woodland and valley and foothill grassland, often in serpentinite and clay soils, from 75 to 650 meters elevation. Blooms April – May (June) (CNPS 2022).	**Will not occur.** There is no suitable serpentinite or clay soil habitat for this species in the Study Area.
Sidalcea oregona ssp. *hydrophila* marsh checkerbloom	--/--/1B.2	A perennial herb found in mesic microsites in meadows, seeps, and riparian forest from 1,100 – 2,300 meters elevation. Blooms (June) July – August (CNPS 2022).	**Will not occur.** There is no suitable marsh habitat for this species in the Study Area.
Streptanthus brachiatus ssp. *hoffmanii* Freed's jewelflower	--/--/1B.2	A perennial herb found in chaparral and cismontane woodland from 490 – 1,220 meters elevation, usually on serpentine soils. Blooms May – July (CNPS 2022).	**Will not occur.** There is no suitable serpentinite soil habitat for this species in the Study Area and the Study Area is located below the elevational range of this species.
Streptanthus brachiatus ssp. *brachiatus* Socrates Mine jewelflower	--/--/1B.2	A perennial herb found in chaparral and closed-cone coniferous forest from 545 – 1,000 meters elevation, usually on serpentine soils. Blooms May – June (CNPS 2022).	**Will not occur.** The Study Area is located below the elevational range of this species.
Streptanthus hesperidis green jewelflower	--/--/1B.2	An annual herb found on serpentinite, rocky soils in openings in chaparral, and cismontane woodlands from 130 – 760 meters elevation. Blooms May – July (CNPS 2022). Blooms May – July (CNPS 2022).	**Will not occur.** There is no suitable soil habitat for this species in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Streptanthus morrisonii ssp. *kruckebergii* Kruckeberg's jewelflower	--/--/1B.2	A perennial herb found on serpentine soils in cismontane woodland from 215 - 1,035 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable serpentinite soil habitat for this species in the Study Area.
Trifolium hydrophilum saline clover	--/--/1B.2	An annual herb found in marshes, swamps, mesic alkaline valley and foothill grassland, and vernal pools from 0–- 300 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** There is no suitable marsh habitat for this species in the Study Area.
Viburnum ellipticum oval-leaved viburnum	--/--/2B.3	A perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 215 – 1,400 meters elevation. Blooms May – June (CNPS 2022).	**Presumed Absent.** Suitable habitat is present for this species in oak woodlands. However, this species was not observed during a site visit on September 15, 2022. This species is perennial deciduous shrub and would have been identifiable during the site visit.
Wildlife			
Invertebrates			
Bombus occidentalis western bumble bee	--/CE/--	Bumble bees are primitively eusocial insects that live in underground colonies made up of one queen, female workers, and reproductive members of the colony. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (Thorp et al. 1983). This species occurs in meadows and grasslands with an abundance of floral resources (CDFW 2019). This species is a generalist forager and have been reported visiting a wide variety of flowering plants. A short-tongued bumble bee; select food plants include *Melilotus* spp., *Cirsium* spp., *Trifolium* spp., *Centaurea* spp., *Eriogonum* spp., and *Chrysothamnus* spp. (Koch et al. 2012). This species has a short tongue and typically prefers open flowers with short corollas but is known to chew through the base of flowers with long corollas. The flight period for queens	**May occur.** Marginally suitable habitat is present in annual grassland in the Study Area where preferred select food plants are present. Grassland habitat is disturbed by annual vegetation management operations, however, disturbance to annual grassland habitat is not severe and the Study Area could still support underground bee colonies if this species is present. This species is currently rare across its range and in California it is limited to high elevation meadows in the Sierra Nevada and small coastal populations (CDFW 2019). There are CNDDB documented occurrences of this species within 10 miles of the Study Area (CDFW 2023). There are only two occurrences of this species in Lake County, and both accounts are from the 1940s and 1960s (CDFW 2023).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		in California is from early February to late November, peaking in late June and late September. New queens hibernate over the winter and initiate a new colony the following spring (Thorp et al. 1983). Rare throughout its range and in decline west of the Sierra Nevada crest.	
Danaus plexippus pop. 1 monarch - California overwintering population	FC/--/--	Overwintering populations of Monarch butterflies roost in wind protected tree groves, especially with Eucalyptus sp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* sp.) (Nial et al. 2019 and USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring (USFWS 2020). The overwintering population is located along the Coast while summer breeding areas occur in interior California and North America with spring breeding areas located further east (USFWS 2020).	**May occur.** There is no suitable overwintering habitat in the Study Area, however Indian milkweed, a larval food plant is abundant along an intermittent drainage in the Study Area. There are no documented CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Fishes			
Archoplites interrupta Sacramento perch	--/--/SSC	Extinct in its native range, all known populations of this species are the result of introductions. The species is adapted for life in sloughs, slow moving rivers, and large lakes in the Central Valley, and can tolerate high temperatures and salinities as well as high pH (alkalinity). Extant populations are in reservoirs; the species has been replaced in its native range by introduced game fishes (Crain and Moyle 2011).	**Will not occur.** There is no suitable aquatic habitat in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Hypomesus transpacificus Delta smelt	FT/SE/--	Delta smelt are tolerant of a wide salinity range. They have been collected from estuarine waters up to 14 ppt (parts per thousand) salinity. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse into river channels and tidally-influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone. Most spawning happens in tidally-influenced backwater sloughs and channel edge-waters. Although spawning has not been observed in the wild, the eggs are thought to attach to substrates such as cattails, bulrush, tree roots and submerged branches. Delta smelt are found only from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties (USFWS 2017).	**Will not occur.** There is no suitable aquatic habitat in the Study Area and the Study Area is outside of this species' range.
Hysterocarpus traskii lagunae Clear Lake tule perch	--/--/SSC	Endemic to three altered lakes which have lost most of their own native fish species. Occurs in Clear Lake and may still occur in Lower Blue Lake and remains common in Upper Blue Lake. The species is adapted for life in lakes with warm waters. Clear Lake tule perch are tolerant of varied environmental conditions, however their absence from the Central Valley indicates they may be less tolerant of poor water quality (Moyle et al. 2015).	**Will not occur.** There is no suitable aquatic habitat in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Lavinia exilicauda chi Clear Lake hitch	--/ST/--	Found only in Clear Lake, where it is associated with ponds in streams that are tributary to Clear Lake (CDFW 2022). Adults are typically found in the limnetic zone of the lake and juveniles are found nearshore amongst vegetation (CDFW 2022).	**Will not occur.** There is no suitable aquatic habitat in the Study Area.
Amphibians			
Dicamptodon ensatus California giant salamander	--/--/SSC	Endemic to California and occurs in wet coastal forests near clear, cold perennial streams below 3,000 feet above msl. Larval stage transforms to adult stage after approximately 18-24 months. Typically found on the surface on rainy nights or wet days while foraging. Will eat anything that it can overpower and fit into its mouth, such as slugs, rodents, other amphibians and reptiles (Kucera 1997).	**Will not occur.** There is no suitable aquatic or upland habitat in the Study Area. The Study Area is dominated by arid upland habitats. The Study Area is outside of this species' known range. There are no documented CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Rana boylii Foothill yellow-legged frog	--/SE/SSC (Northern Sierra Nevada and Feather River Pop ST; FE along the Coast and Southern California; North coast populations are not listed)	The foothill yellow-legged frog occurs along the coast ranges from Oregon to Los Angeles and along the western side of the Sierra Nevada. This species uses perennial rocky streams in a wide variety of habitats up to 6,400 feet above msl. This species rarely ventures far from water, is usually found basking in the water, or under surface debris or underground within 165 feet of water. Eggs are laid in clusters attached to gravel or rocks along stream margins in flowing water. Tadpoles typically require up to four months to complete aquatic development. Breeding typically follows winter rainfall and snowmelt, which varies based upon location (Jennings and Hayes 1994).	**Will not occur.** There is no suitable aquatic or upland habitat in the Study Area. The stream in the Study Area is intermittent, which does not provide habitat for this species. There is a total of four CNDDB reported occurrences of this species within a 5-mile radius of the Study Area (CDFW 2022). The nearest and most current record is located four miles east of the Study Area along the North Fork of Cache Creek (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Rana draytonii California red-legged frog	FT/--/SSC	The California red-legged frog occupies a fairly distinct habitat, combining both specific aquatic and riparian components. The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow-moving water. The largest densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha latifolia*). Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. California red-legged frogs aestivate (enter a dormant state during summer or dry weather) in small mammal burrows and moist leaf litter. They have been found up to 100 feet from water in adjacent dense riparian vegetation. Studies have indicated that this species cannot inhabit water bodies that exceed 70° F, especially if there are no cool, deep portions (USFWS 2002).	**Will not occur.** There is no suitable aquatic or upland habitat in the Study Area. The intermittent drainage in the Study Area does not provide water of sufficient depth and duration to support larval development. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Taricha rivularis Red-bellied newt	--/--/SSC	Inhabits rapid flowing, rocky, permanent streams in redwood forest, mixed coniferous forest, valley-foothill woodland, montane hardwood and hardwood-conifer habitats. Migrates to streams during the rainy season to breed, which it may move across uplands up to one mile. During the summer, it aestivates underground (Jennings and Hayes 1994).	**Will not occur.** There is no suitable aquatic or upland habitat in the Study Area. The Study Area is dominated by arid upland habitats. The Study Area is outside of this species' known range. There is one documented CNDDB reported occurrence within a 5-mile radius of the Study Area (CDFW 2022). The record is located 3.3 miles southeast of the Study Area along Dry Creek where one larvae was collected in 1943 (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Reptiles			
Actinemys (=Emys) marmorata western pond turtle	--/--/SSC	Inhabits slow-moving water with dense submerged vegetation, abundant basking sites, gently sloping banks, and dry clay or silt soils in nearby uplands. Turtles will lay eggs up to 0.25 mile from water, but typically go no more than 600 feet (Jennings and Hayes 1994).	**Will not occur.** There is no suitable aquatic or upland habitat in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Birds			
Accipiter cooperii Cooper's hawk	--/--/WL	Nests in woodlands and urban trees. Preys on medium-sized birds and small mammals. Forages in open woodland and habitat edges (Zeiner et al. 1990).	**May occur.** The Study Area provides suitable nesting and foraging habitat for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Aquila chrysaetos Golden eagle	--/--/FP	Typically occurs in rolling foothills, mountain areas, deserts and other open habitats up to 3,822 m amsl. Typically nests on cliff ledges or large trees in open areas in canyons. Will occasionally use other tall structures for nesting, such as electrical transmission towers. Prey consists mostly of rodents, carrion, birds, reptiles and occasionally small livestock (Zeiner et al. 1990).	**Not expected.** The Study Area is does not provide suitable nesting habitat for this species. This species could occur in flight foraging over the Study Area. There is one CNDDB reported occurrence within a 5-mile radius of the Study Area (CDFW 2022). The record documents a nest site 4.4 miles southeast of the Study Area from 1986 (CDFW 2022).
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT/SE/--	Occurs at isolated sites in Sacramento Valley in northern California, and along Kern and Colorado River systems in southern California. Frequents valley foothill and desert riparian habitats. Inhabits open woodlands with clearings, and riparian habitats with dense understory foliage along slow-moving drainages, backwaters, or seeps. Prefers dense willows for roosting but will use adjacent orchard in the Sacramento Valley (CDFW 2005).	**Will not occur.** Suitable nesting habitat is not present in the Study Area. There is one potential observation of this species in the vicinity of the Study Area from 1973 that documented an observation in riparian forest near Clear Lake (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Falco mexicanus prairie falcon	--/--/WL	An uncommon permanent resident of the deserts, Central Valley, inner Coast Ranges, and Sierra Nevada in California. Primarily found in grasslands, rangelands, desert scrub, and some agricultural areas. Requires sheltered cliffs and ledges for cover. Dives from a perch or from flight to take prey on the ground (Zeiner et al. 1990).	**Will not occur.** Suitable nesting habitat is not present in the Study Area. This species is likely to occur nesting and foraging in the adjacent rocky slopes. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Haliaeetus leucocephalus Bald eagle	FD/SE/FP	Requires large bodies of water with an abundant fish population. Feeds on fish, carrion, small mammals, and water-fowl. Nests are usually located within a 1-mile radius of water. Nests are most often situated in large trees with a commanding view of the area (Zeiner et al. 1990).	**Will not occur.** Suitable nesting habitat is not present in the Study Area. This species could nest in the region and it could occur in flight traveling between nesting sites and foraging habitat in Clear Lake or Cache Creek. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Pandion haliaetus Osprey	--/--/WL	Osprey breed in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. They prey primarily on fish but also predate small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Habitat and nesting requirements include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner et al. 1990).	**May occur.** Suitable habitat is present in the Study Area in oak woodlands and utility poles in and adjacent to the Study Area. However, this species is more likely to nest closer to Clear Lake or other waterways with foraging habitat. There are two CNDDB reported occurrences within a 5-mile radius of the Study Area of this species nesting near Clear Lake (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Progne subis purple martin	--/--/SSC	Occurs as a summer resident and migrant, primarily from mid-March to late September. Breeds from May (rarely late Apr) to mid-August. Purple martins are widely but locally distributed in forest and woodland areas at low to intermediate elevations throughout much of the state. Martins use a wide variety of nest substrates (e.g., tree cavities, bridges, utility poles, lava tubes, and, formerly, buildings), but nonetheless are very selective of habitat conditions nearby. Martins are most abundant in mesic regions, near large wetlands and other water bodies, and at upper slopes and ridges, which likely concentrate aerial insects (Shuford and Gardali 2008).	**May occur.** Suitable habitat is present in the Study Area in oak woodlands. Tree cavities in trees and tree snags were present in addition to other cavity nesting birds. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Strix occidentalis caurina Northern spotted owl	FT/--/--	Northern spotted owl resides in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 7,600 ft. In southern California, this species is nearly always associated with oak and oak-conifer habitats. Northern spotted owl is found from British Colombia south through northwestern California south to San Francisco.	**Will not occur.** The Study Area does not provide old growth coniferous forest habitat or meadow edge habitat for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Mammals			
Antrozous pallidus pallid bat	--/--/SSC	Occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet. Most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, and under bridges (Bolster, ed. 1998).	**Not expected.** There is no suitable roosting habitat in the Study Area for this species. However, this species could forage within the Study Area at night and generally disperse through the area. There are two CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). Both records are historic accounts from over 50 years ago (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Corynorhinus townsendii Townsend's big-eared bat	--/--/SSC	Widely distributed throughout California except alpine and subalpine habitats. This species eats moths, beetle and other insects which it catches on the wing or by gleaning from vegetation. Typically found near water since it is poor at concentrating its urine. This species uses caves, mines, tunnels, buildings, and human made structures for roosting. Maternity roosts are typically in warm sites. Hibernation sites are typically cold, but not freezing. This species is very sensitive to disturbance and may abandon its roost after one visit (Zeiner et al. 1990).	**Will not occur.** There is no suitable habitat for this species in or adjacent to the Study Area. There is one historic CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Lasionycteris noctivagans silver-haired bat	--/--/--	Insectivorous bat that roosts in hollow trees, beneath exfoliating bark, in abandoned woodpecker holes, and rarely under rocks. They primarily occur in coastal and montane forests, feeding over streams, ponds and open brushy areas (Zeiner et al. 1990).	**May occur.** The Study Area provides suitable habitat for this species. This species could roost under tree bark, in tree cavities and/or tree hollows and feed over the nonnative annual grassland. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Lasiurus blossevillii *Western red bat*	--/--/SSC	Roosts primarily in woodlands and forests amongst branches and avoids roosting in caves or buildings (Bolster 1998). Forages in open habitat such as croplands, grasslands and shrublands. This species is typically associated with water and has a poor urine concentrating ability. Primarily roosts solitarily in trees from 2–40 feet high in the trees, with females and young roosting higher in the trees than males. Forages along edge habitats (Zeiner et al. 1990). This species is rarely found in the winter at locations that freeze (Pierson et al. 2006).	**May occur.** The Study Area provides suitable habitat for this species. This species could roost in tree foliage. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Lasiurus cinereus hoary bat	--/--/--	Insectivorous bat, roosts in dense foliage of medium to large trees. Suitable breeding habitats include woodlands and forests with medium to large trees and dense foliage. Winters along the coasts and in southern California and breeds inland and north of the winter range. Primarily roosts solitarily in trees in trees, with females and young roosting higher in the trees than males. Breeds from May through August (Zeiner et al. 1990).	**May occur.** The Study Area provides suitable habitat for this species. This species could roost in tree foliage. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).
Myotis thysanodes Fringed myotis	--/--/--	Occurs throughout California up to 9,350 feet, although it is most common between 4,000 to 7,000 feet. Habitats include pinyon-juniper, foothill hardwood and hardwood-conifer forests. This species is typically found roosting in buildings, mines, caves or crevices. Separate day and night roosts may be used (Zeiner et al. 1990). This species forages close to water since it has a poor urine concentrating ability. This species is often seen gleaning prey off of foliage (Zeiner et al. 1990).	**Will not occur**. The Study Area does not provide suitable roosting habitat for this species and the Study Area is below the elevational range where this species is most common. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Myotis volans Long-legged myotis	--/--/--	Occurs in mountain ranges throughout California up to 11,400 feet. This species is most common in woodland habitats above 4,000 feet elevation. This species is typically found roosting in buildings, mines, caves or crevices and under tree bark. Separate day and night roosts may be used, which caves are only used for night roosts (Zeiner et al. 1990). Trees are the most important day roost habitat. This species forages close to water since it has a poor urine concentrating ability (Zeiner et al. 1990).	**Will not occur**. The Study Area does not provide suitable roosting habitat for this species and the Study Area is below the elevational range where this species is most common. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022).

[1] Sensitive species reported in CNDDB or CNPS on the "*Clearlake Oaks, Clearlake Highlands, Benmore Canyon, Wilbur Springs, Jericho Valley, Middletown, Whispering Pines, Lower Lake, and Wilson Valley*" USGS quads, or in the USFWS list for the Study Area.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare; C = Candidate; FP=Fully Protected; SSC=Species of Special Concern; WL=Watch List.

[3] Status in the Study Area is assessed as follows. **Will Not Occur**: Species is either sessile (*i.e.* plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the Study Area; **Not Expected**: Species moves freely and might disperse through or across the Study Area, but suitable habitat for residence or breeding does not occur on the Study Area, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100% certainty; **Presumed Absent:** Habitat suitable for residence and breeding occurs on the Study Area; however, focused surveys conducted for the current project were negative; **May Occur**: Species was not observed on the site and breeding habitat is not present but the species has the potential to utilize the site for dispersal; **High**: Habitat suitable for residence and breeding occurs on the Study Area and the species has been recorded recently on or near the Study Area, but was not observed during surveys for the current project; **Present**: The species was observed during biological surveys for the current project and is assumed to occupy the Study Area or utilize the Study Area during some portion of its life cycle.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere; 3 – plants about which we need more information – A Review List. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – Not very threatened in California.

REFERENCES

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

California Department of Fish and Wildlife (CDFW). 2022. California Natural Diversity Database (CNDDB); For: *Clearlake Oaks, Clearlake Highlands, Benmore Canyon, Wilbur Springs, Jericho Valley, Middletown, Whispering Pines, Lower Lake, and Wilson Valley* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed September 14, 2022.

2019. Report to the Fish and Game Commission: Evaluation of the Petition from the Xerces Society, Defenders of Wildlife and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act. April 2019. Special California Department of Fish and Wildlife, Sacramento, California, USA.

2005. The Status of Rare, Threatened, and Endangered Plants and Animals of California 2000-2004: 2005 Annual Report Summary. California Department of Fish and Game Wildlife. Sacramento, California, USA.

California Geologic Survey (CGS). 2010. 2010 Geologic Map of California Viewer. California Department of Conservation. Accessed on September 20, 2022.

California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants (online edition, v8-03 0.45) For: *Clearlake Oaks, Clearlake Highlands, Benmore Canyon, Wilbur Springs, Jericho Valley, Middletown, Whispering Pines, Lower Lake, and Wilson Valley* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed September 14, 2022.

Crain, Patrick K., and Peter B. Moyle. 2011. Biology, History, Status and Conservation of Sacramento Perch, Archoplites interruptus. San Francisco Estuary and Watershed Science 9(1): 1546-2366.

De Groot, S., Gowen, D. and Robert W. Patterson 2015, *Eriastrum tracyi*, in Jepson Flora Project (eds.) Jepson eFlora, Revision 3, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=24598, accessed on September 20, 2022.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report submitted to the California Department of Fish and [Wildlife], Inland Fisheries Division.

Kelley, R.B. and Ganders, F.R. 2012. *Amsinckia lunaris*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=13139, accessed on September 19, 2022.

Koch, J., J. Strange, and P. Williams. 2012. Bumble bees of the Western United States. USDA-Forest Service, Pollinator Partnership. Washington, DC. 144 pp.

Kucera, Thomas (1997). California Giant Salamander (Report). California Department of Fish and Game.

Moyle, P.B., R. M. Quiñones, J. V. Katz and J. Weaver. 2015. Fish Species of Special Concern in California. Sacramento: California Department of Fish and Wildlife. www.wildlife.ca.gov.

Nial K.R., Drizd, L. and Voorhies K.J. 2019. Butterflies Across the Globe: A Synthesis of the Current Status and Characteristics of Monarch (Danaus plexippus) Populations Worldwide. Front. Ecol. Evol. 7:362. doi: 10.3389/fevo.2019.00362

Pierson, E. D., W. E. Rainey and C. Corben. 2006. Distribution and status of western red bats (Lasiurus blossevillii) in California. California Department of Fish and Game, Habitat Conservation Planning Branch, Species Conservation and Recovery Program Report 2006-04, Sacramento, CA 45 pp.

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

Thorp, R. W., D. S Horning and L. L. Dunning. 1983. Bumble bees and cuckoo bumble bees of California (Hymenoptera: Apidae). Bulletin of the California Insect Survey 23: viii.

U.S. Fish and Wildlife Service (USFWS). 2020. Monarch (Danaus plexippus) Species Status Assessment Report. V2.1 96 pp + appendices.

2017. Delta Smelt (Hypomesus transpacificus), species account. Available at: https://www.fws.gov/sfbaydelta/EndangeredSpecies/Species/Accounts/DeltaSmelt/DeltaSmelt.htm. Accessed January 2022.

2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.

Appendix F

Representative Site Photos

Photo 1. Representative view of blue oak-foothill pine woodland along an intermittent drainage. Photograph taken on September 15, 2022.

Photo 2. Representative view of isolated eucalyptus trees in the Study Area. Photograph taken on September 15, 2022.

Photo 3. Representative view of fragmented blue oak-foothill pine woodland along an intermittent drainage. Photograph taken on September 15, 2022.

Photo 4. Representative view of blue oak-foothill pine woodland (background) above nonnative annual grassland (foreground). Photograph taken on September 15, 2022.