
**BIOLOGICAL RESOURCES ASSESSMENT FOR THE
CANNABIS CULTIVATION OPERATION
AT 13095 BOTTLE ROCK ROAD, KELSEYVILLE, CALIFORNIA**



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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted a biological resources assessment for a cannabis cultivation operation at 13095 Bottle Rock Road, Kelseyville, in Lake County, California. For this assessment, the entire 61-acre parcel (APN 011-039-37 and 011-039-38) was the Study Area. The property is accessed by a private graveled road on Bottle Rock Road (see exhibits).

The proposed project is a Cannabis cultivation operation with an operational footprint of approximately 3.23 acres (the Project Area). The site is a former group camp facility. The Project Area is flat and will not require grading or terracing. Vegetation clearing will be limited to mowing and tilling of irrigated grass game fields (see exhibits). No new buildings or roads are planned at this time. Mature plants will be grown outside in a fenced garden compound approximately 3 acres in size. Cultivation will occur in full sun in raised beds. The irrigation system for the cultivation operation uses water supplied by a well and the pond located in the northwestern portion of the parcel. The water will be pumped via underground PVC piping to four 2,500-gallon storage tanks adjacent to the garden. Irrigation will be provided via black poly tubing and emitters (drip irrigation). A mixing tank may be used to add liquid fertilizers and other amendments to the irrigation water. A soil stockpile and compost pile will be established within the garden enclosure. A hoop house may be erected to serve as a nursery. No lighting or electricity will be used in the hoop house.

The existing home may also be used for Cannabis processing, employee break room, or chemical storage. The flush toilets within the home will be available to employees. Portable chemical toilets will be rented as needed to support additional workers during peak work periods. Electricity for the home and shed is provided by the local electric utility. Diesel generators will provide back-up emergency power. A propane tank (approximately 200 gallons) may be installed to provide fuel for heating the building/shed. Up to four shipping storage containers may be brought in if additional storage space is needed. Employees will use the existing driveway for parking and staging. Gravel access roads connect the cultivation operational areas. Existing facilities that will not be used for this operation include a barn, recreational hall, as well as several outbuildings.

1.2. PURPOSE AND SCOPE OF ASSESSMENT

This Biological Resources Assessment was prepared to assist in compliance with the California Environmental Quality Act and the state and federal Endangered Species Acts. This assessment also functions to fulfill requirements for obtaining enrollment (a Notice of Applicability) in the State Water Resources Control Board's Order WQ 2019-0001-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (General Order).

This assessment provides information about the biological resources within the Study Area, the regulatory environment affecting such resources, any potential Project-related impacts upon these resources, and finally, to identify mitigation measures and other recommendations to reduce the significance of these impacts. The specific scope of services performed for this assessment consisted of the following tasks:

- Compile all readily-available historical biological resource information about the Study Area;
- Spatially query state and federal databases for any occurrences of special-status species or habitats within the Study Area and vicinity;
- Perform a reconnaissance-level field survey of the Study Area, including photographic documentation;
- Inventory all flora and fauna observed during the field survey;

- Characterize and map the habitat types present within the Study Area, including any potentially-jurisdictional water resources;
- Evaluate the likelihood for the occurrence of any special-status species;
- Assess the potential for the Project to adversely impact any sensitive biological resources;
- Recommend mitigation measures designed to avoid or minimize Project-related impacts; and
- Prepare and submit a report summarizing all of the above tasks.

The scope of services does not include other services that are not described in this Section, such as formal aquatic resource delineations or protocol-level surveys for special-status species.

1.3. REGULATORY SETTING

The following section summarizes some applicable regulations of biological resources on real property in California.

1.3.1. Special-status Species Regulations

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service implement the Federal Endangered Species Act of 1973 (FESA) (16 USC §1531 *et seq.*). Threatened and endangered species on the federal list (50 CFR §17.11, 17.12) are protected from “take” (direct or indirect harm), unless a FESA Section 10 Permit is granted or a FESA Section 7 Biological Opinion with incidental take provisions is rendered. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation. Species that are candidates for listing are not protected under FESA; however, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

The California Endangered Species Act of 1970 (CESA) (California Fish and Game Code §2050 *et seq.*, and CCR Title 14, §670.2, 670.51) prohibits “take” (defined as hunt, pursue, catch, capture, or kill) of species listed under CESA. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Section 2081 establishes an incidental take permit program for state-listed species. Under CESA, California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFG Code 2070). CDFW also maintains lists of species of special concern, which serve as “watch lists.” Pursuant to requirements of CESA, an agency reviewing proposed projects within its jurisdiction must determine whether any state-listed species may be present in the Study Area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation.

California Fish and Game Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species “fully protected”, making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 *et seq.*) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. Section 19131 of the code requires that landowners notify CDFW at least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

Many bird species, especially those that are breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs. Fish and Game Code §3511 designates certain bird species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The Bald and Golden Eagle Protection Act (16 USC §668) specifically protects bald and golden eagles from harm or trade in parts of these species.

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines "rare" in a broader sense than the definitions of threatened, endangered, or fully protected. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species on the California Native Plant Society (CNPS) Lists 1A, 1B, or 2 are typically considered rare under CEQA. California "Species of Special Concern" is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

1.3.2. Water Resource Protection

Real property that contains water resources are subject to various federal and state regulations and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies, as described next.

The Federal Water Pollution Control Act Amendments of 1972 (as amended), commonly known as the Clean Water Act (CWA), established the basic structure for regulating discharges of pollutants into "waters of the United States". Waters of the US includes essentially all surface waters, all interstate waters and their tributaries, all impoundments of these waters, and all wetlands adjacent to these waters. CWA Section 404 requires approval prior to dredging or discharging fill material into any waters of the US, especially wetlands. The permitting program is designed to minimize impacts to waters of the US, and when impacts cannot be avoided, requires compensatory mitigation. The US Army Corps of Engineers (USACE) is responsible for administering Section 404 regulations. Substantial impacts to jurisdictional wetlands may require an Individual Permit. Small-scale projects may require only a Nationwide Permit, which typically has an expedited process compared to the Individual Permit process. Mitigation of wetland impacts is required as a condition of the CWA Section 404 Permit and may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. The California State Water Resources Control Board is responsible for administering CWA Section 401 regulations.

Section 10 of the Rivers and Harbors Act of 1899 requires approval from USACE prior to the commencement of any work in or over navigable Waters of the US, or which affects the course, location,

condition or capacity of such waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use, as a means to transport interstate or foreign commerce up to the head of navigation. Rivers and Harbors Act Section 10 permits are required for construction activities in these waters.

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of “waters of the State”. The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the “stream zone”, defined as “that portion of the stream channel that restricts lateral movement of water” and delineated at “the top of the bank or the outer edge of any riparian vegetation, whichever is more landward”. CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

For construction projects that disturb one or more acres of soil, the landowner or developer must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

The State Water Resources Control Board’s Order WQ 2019-0001-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities protects receiving water bodies from water-quality impacts associated with cannabis cultivation using a combination of Best Management Practices, buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

1.3.3. Tree Protection

At the State level, in areas inside timberland, any tree removal is subject to the conditions and requirements set forth in the Z’berg-Nejedly Forest Practice Act and the California Forest Practice Rules. If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased, Fuelwood, or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.

Lake County does not have a specific ordinance protecting native trees. However, under the Cannabis Ordinance 3084, Section 4, Subsection iii) Prohibited Activities (a) Tree Removal, Lake County restricts tree removal as follows:

“The removal of any commercial tree species as defined by the California Code of Regulations section 895.1, Commercial Species for the Coast Forest District and Northern Forest District, and the removal of any true oak species (Quercus species) or Tan Oak (Notholithocarpus species) for the purpose of developing a cannabis cultivation site should be avoided and minimized. This shall not include the pruning of any such tree species for the health of the tree or the removal of such trees if necessary for safety or disease concerns.”

During the permitting process, Lake County requires mitigation for the removal of protected trees; typical mitigation is tree replacement at a ratio of 2:1 or 3:1.

2. ENVIRONMENTAL SETTING

The Study Area is located within the Inner North Coast Ranges geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Study Area and vicinity is in Sunset Climate Zone 7 - California's Gray Pine Belt, defined by hot summers and mild but pronounced winters without severe winter cold or high humidity (Sunset, 2020). The topography of the Study Area consists of low hills surrounding a wide, flat valley. The elevation ranges from approximately 2275 feet to 2490 feet above mean sea level. Drainage runs south, and eventually flows into Kelsey Creek in the southern portion of the parcel. Kelsey Creek is tributary to Clear Lake.

Prior to the establishment of this cultivation operation, the property was used as a group camp facility. The surrounding land uses are private estates with gardens or corrals, open space, campgrounds and grazing land.

The Natural Resources Conservation Service (NRCS) has identified several soil types within the Study Area. The geology that underlays the site includes soils derived from alluvium, sandstone and shale. The portion of the Study Area mapped east of Bottle Rock Road has mapped soils which are derived from serpentine parent material. No soils derived from volcanic materials are mapped within or adjacent to this parcel. (NRCS 2020).

3. METHODOLOGY

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Any readily-available previous biological resource studies pertaining to the Study Area or vicinity
- United States Geologic Service (USGS) 7.5 degree-minute topographic quadrangles of the Study Area and vicinity
- Aerial photography of the Study Area
- California Natural Diversity Database (CNDDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

3.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS., conducted a reconnaissance-level field survey on January 9, 2020. Weather conditions were cool and partly cloudy with a light breeze. A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible fauna and flora observed were recorded in a field notebook, and identified to the lowest possible taxon. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

When a specimen could not be identified in the field, a photograph or voucher specimen (depending upon permit requirements) was taken and identified in the laboratory using a dissecting scope where necessary. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2020); CDFW (2020b,c); NatureServe 2020; and University of California at Berkeley (2020a,b).

The locations of any special-status species sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Habitat types occurring in the Study Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. The Study Area was also informally assessed for the presence of potentially-jurisdictional water features, including riparian zones, isolated wetlands and vernal pools, and other biologically-sensitive aquatic habitats

3.3. MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were digitized to produce the final habitat maps. The boundaries of potentially jurisdictional water resources within the Study Area were identified and measured in the field, and similarly digitized to calculate acreage and to produce informal delineation maps. Geographic analyses were performed using geographical information system software (ArcGIS 10, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Wetlands and other aquatic habitats were classified using USFWS National Wetlands Inventory Classification System for Wetland and Deepwater Habitats, or "Cowardin class" (Cowardin et al., 1979; USFWS 2007). Informal wetland delineation methods consisted of an abbreviated, visual assessment of the three requisite wetland parameters (hydrophytic vegetation, hydric soils, hydrologic regime) defined in the US Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). Wildlife habitats were classified according to the CDFW's California Wildlife Habitat Relationships System (CDFW, 2020c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2020), Calflora (2020); CDFW (2020a,b,c); and University of California at Berkeley (2020a,b).

4. RESULTS

4.1. INVENTORY OF FLORA AND FAUNA FROM FIELD SURVEY

All plants detected during the field survey of the Study Area are listed in Appendix 2. The following animals were detected within the Study Area during the field survey: sharp-tailed snake (*Contia tenuis*); black-tailed jackrabbit (*Lepus californicus*); Botta's pocket gopher (*Thomomys bottae*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); dog (*Canis lupis familiaris*); dusky-footed wood rat (*Neotoma fuscipes*); western gray squirrel (*Sciurus griseus*); acorn woodpecker (*Melanerpes formicivorus*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); California towhee (*Melospiza crissalis*); common raven (*Corvus corax*); mallard (*Anas platyrhynchos*); northern flicker (*Colaptes auratus*); sparrow (Emberizidae); Stellar's jay (*Cyanocitta stelleri*); turkey vulture (*Cathartes aura*); western bluebird (*Sialia mexicana*); white-breasted nuthatch (*Sitta carolinensis*) and other common songbirds.

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

4.2.1. Terrestrial Vegetation Communities

The Study Area contains the following terrestrial vegetation communities: Ruderal/Disturbed, Irrigated Pasture/Game Field, Oak-Pine Woodland, Chaparral, Riparian. These vegetation communities are discussed here and are delineated in the Exhibits. Aquatic vegetation communities are discussed in the section on jurisdictional waters.

Ruderal/Disturbed: These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads, or structure and utility placement. Vegetation within this habitat type consists primarily of nonnative annual grasses, weedy or invasive species or ornamental plants lacking a consistent community structure. This habitat is classified as Holland vegetation type – “Non-native Grassland,” and “Urban” wildlife habitat types by CDFW's Wildlife Habitat Relationship System (WHR).

Irrigated Pasture/Game Fields: The irrigated pasture/game fields have been planted and maintained for recreational use. The fields are comprised largely of non-native grasses and herbs include tall fescue (*Festuca arundinacea*), English plantain (*Plantago lanceolata*) and filaree (*Erodium cicutarium*). This habitat is classified as the “Pasture” wildlife habitat type by CDFW's WHR (CDFW 2020c).

Chaparral (Chamise/Scrub Oak): The hills of the northern portion of the Study Area are typically vegetated with a dense cover of evergreen shrubs. The warm west and south-facing slopes are vegetated with chamise (*Adenostoma fasciculatum*) as the dominant shrub with leather oak (*Quercus durata*), California scrub oak (*Quercus berberidifolia*), interior live oak (*Quercus wislizeni*), common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), mountain mahogany (*Cercocarpus betuloides*) and wedgeleaf ceanothus (*Ceanothus cuneatus*). This type of chaparral can be classified as “*Adenostoma fasciculatum* shrubland alliance” or as the Holland Type “Chamise Chaparral”.

Oak/Pine Woodland. Tree dominated habitats are found throughout the Study Area. The oak/pine woodland consists of an open-to-dense canopy of valley oak (*Quercus lobata*) and ponderosa pine (*Pinus ponderosa*) with occasional blue oak (*Quercus douglasii*), gray pine (*Pinus sabiniana*) and California black oak (*Quercus kelloggii*) with an understory of annual grasses (*Bromus* spp., *Avena*, et al) and herbs and occasional common manzanita. “*Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)* Forest Alliance (Sawyer et al, 2009)” or as the Holland Type “Oak Woodland”.

Riparian: Riparian habitat is limited to watercourses in the central and southern portions of the Study Area. Typical plants along the intermittent watercourse (Class II) that bisects the Study Area include willows (*Salix* spp.), sedges (*Carex* spp.), rushes (*Juncus* spp.), California rose (*Rosa californica*) and California mugwort (*Artemisia douglasiana*). This vegetation type can be classified as the Holland Type “Great Valley Willow Scrub” or as “*Salix laevigata* (Red willow thickets) Alliance (Sawyer et al. 2009)”. Riparian habitat is also found along the channel of Kelsey Creek, which is located along the southern edge of the Study Area. The riparian vegetation consists of a well-developed canopy of white alder (*Alnus rhombifolia*) with valley oak, willows and ponderosa pine with an understory of brown dogwood (*Cornus glabrata*) blue elderberry (*Sambucus nigra* ssp. *caerulea*), Himalayan blackberry (*Rubus armeniacus*), orchard grass (*Dactylis glomerata*), sedges, grasses and herbs. This riparian forest can be classified as the Holland Type “White Alder Riparian Forest” or as “*Alnus rhombifolia* Forest Alliance” (Sawyer 2009).

4.2.2. Wildlife Habitat Types

Wildlife habitat types were classified using CDFW's Wildlife Habitat Relationship System. The Study Area contains the following wildlife habitat types: “Urban”, “Irrigated Pasture”, “Montane Hardwood-Conifer”, “Mixed Chaparral” and “Valley Foothill Riparian”.

4.2.3. Critical Habitat and Special-status Habitat

No critical habitat for any federally-listed species occurs within the Study Area. One special-status habitat was detected within the Study Area during the field survey: riparian. The CNDDDB reported one special-status habitats within the Study Area: Clear Lake Drainage Resident Trout Stream. The CNDDDB reported six additional special-status habitats within a 10-mile radius outside of the Study Area: Central Valley Drainage Rainbow Trout/Cyprinid Stream; Clear Lake Drainage Cyprinid/Catostomid Stream; Clear Lake Drainage Seasonal Lakefish Spawning Stream; Northern Basalt Flow Vernal Pool; Northern Volcanic Ash Vernal Pool; and Coastal and Valley Freshwater Marsh.

4.2.4. Habitat Plans and Wildlife Corridors

Wildlife movement corridors link remaining areas of functional wildlife habitat that are separated primarily by human disturbance, but natural barriers such as rugged terrain and abrupt changes in vegetation cover are also possible. Wilderness and open lands have been fragmented by urbanization, which can disrupt migratory species and separate interbreeding populations. Corridors allow migratory movements and act as links between these separated populations. No designated wildlife corridors exist within or near the Study Area. Kelsey Creek may function as a wildlife corridor and fishery within the Study Area; however, this project will not directly or indirectly impact Kelsey Creek. The Study Area is not located within any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

4.3. LISTED SPECIES AND OTHER SPECIAL-STATUS SPECIES

For the purposes of this assessment, “special status” is defined to be species that are of management concern to state or federal natural resource agencies, and include those species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under the Federal Endangered Species Act;
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);

- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by the California Native Plant Society (CNPS); this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

4.3.1. Reported Occurrences of Listed Species and Other Special-status Species

A list of special-status plant and animal species that have occurred within the Study Area and vicinity was compiled based upon the following:

- Any previous and readily-available biological resource studies pertaining to the Study Area;
- Informal consultation with USFWS by generating an electronic Species List (Information for Planning and Conservation website at <https://ecos.fws.gov/ipac/>); and
- A spatial query of the CNDDDB.

The CNDDDB was queried and any reported occurrences of special-status species were plotted in relation to the Study Area boundary using GIS software (see exhibits). The CNDDDB reported two special-status species occurrences within the vicinity of the Study Area:

- foothill yellow-legged frog (*Rana boylei*), "vicinity of Binkley Ranch, about 3 mi NW of Cobb; MVZ fieldnotes for 1955 collections says collectors stayed at Binkley Ranch and collected in vicinity from Kelsey Creek and Mahnke Ranch."; and
- glandular western flax (*Hesperolinon adenophyllum*), "Kelsey Creek, about 9 miles south southeast of town of Kelseyville, in Lake County; from headwaters in Cobb Valley downstream to waterfall barrier at about 2000 ft. elevation. Also includes lower reaches of tributaries in headwater area." A second record is reported as follows: "North of Glenbrook, northeast of junction of Bottle Rock Road and Sulphur Creek Road. Mapped mostly within the west 1/2 of section 28, slightly extending into the east 1/2 of section 29."

These species were not observed during the field survey. However, suitable aquatic habitat for the yellow-legged frog is present in Kelsey Creek and in the unnamed Class II watercourses. The serpentine soil underlaying the chaparral vegetation in the eastern part of the Study Area may provide suitable habitat for Glandular Western Flax.

Within a 10-mile buffer of the Study Area boundary, the CNDDDB reported numerous special-status species occurrences, summarized in Table 1. A USFWS species list was generated online using the USFWS' IPaC Trust Resource Report System (see Appendix 1). This list is generated using a regional and/or watershed approach and does not necessarily indicate that the Study Area provides suitable habitat. The following listed species should be considered in the impact assessment:

- Birds
 - Northern Spotted Owl (*Strix occidentalis caurina*) Threatened
- Reptiles
 - Green Sea Turtle (*Chelonia mydas*) Threatened
- Amphibians
 - California Red-legged Frog (*Rana draytonii*) Threatened
- Fishes
 - Delta Smelt (*Hypomesus transpacificus*) Threatened
- Crustaceans
 - California Freshwater Shrimp (*Syncaris pacifica*) Endangered
 - Conservancy Fairy Shrimp (*Branchinecta conservation*) Endangered

- Flowering Plants
 - Burke's Goldfields (*Lasthenia burkei*) Endangered
 - Few-flowered Navarretia (*Navarretia leucocephala* ssp. *pauciflora*) Endangered
 - Slender Orcutt Grass (*Orcuttia tenuis*) Threatened
- Migratory Birds

Table 1. Special-status Species Reported by CNDDB in the Vicinity of the Study Area

Common Name <i>Scientific Name</i>	Status*	General Habitat	Microhabitat
Red-bellied newt <i>Taricha rivularis</i>	CSSC	Found in coastal woodlands and redwood forests along the coast of Northern California	A stream or river dweller. Larvae retreat into vegetation and under stones during the day.
California giant salamander <i>Dicamptodon ensatus</i>	CSSC	Mendocino and Lake Counties south to Santa Cruz and Santa Clara Counties.	Wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages.
Foothill yellow-legged frog <i>Rana boylei</i>	CCT/ CSSC	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
Osprey <i>Pandion haliaetus</i>	CWL	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT/ CE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.
Purple martin <i>Progne subis</i>	CSSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, & Monterey pine.	Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.
Bell's sage sparrow <i>Artemisiospiza belli</i>	CWL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.
Tricolored blackbird <i>Agelaius tricolor</i>	CT/CSSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.
Steelhead - central California coast DPS <i>Oncorhynchus mykiss irideus</i> pop. 8	FT	From Russian River, south to Soquel Cr & to, but not including, Pajaro River. Also San Francisco & San Pablo Bay basins.	
Clear Lake hitch <i>Lavinia exilicauda chi</i>	CT	Found only in Clear Lake, Lake Co, and associated ponds. Spawns in streams flowing into Clear Lake.	Adults found in the limnetic zone. Juveniles found in the nearshore shallow-water habitat hiding in the vegetation.
Sacramento perch <i>Archoplites interruptus</i>	CSSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.
Long-eared myotis <i>Myotis evotis</i>	CSSC	Found in all brush, woodland & forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands & forests.	Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.
Fringed myotis <i>Myotis thysanodes</i>	CSSC	In a wide variety of habitats, optimal habitats are pinyon-	Uses caves, mines, buildings or crevices for maternity colonies and roosts.

Common Name Scientific Name	Status*	General Habitat	Microhabitat
		juniper, valley foothill hardwood & hardwood-conifer.	
Hoary bat <i>Lasiurus cinereus</i>	CSSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Western red bat <i>Lasiurus blossevillei</i>	CSSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests.	Prefers habitat edges & mosaics with trees that are protected from above & open below with open areas for foraging.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSSC	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.
Pallid bat <i>Antrozous pallidus</i>	CSSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
North American porcupine <i>Erethizon dorsatum</i>	CSSC	Coast ranges, Klamath Mountains, southern Cascades, Modoc Plateau, Sierra Nevada and Transverse Ranges.	Montane conifer and wet meadow habitats.
Fisher - West Coast DPS <i>Pekania pennanti</i>	CT/CSSC	Intermediate to large-tree stages of coniferous forests & deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs & rocky areas for cover & denning. Needs large areas of mature, dense forest.
Western pond turtle <i>Emys marmorata</i>	CSSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, be	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg- laying
An isopod <i>Calasellus californicus</i>	CSSC	Known from Lake, Napa, Marin, Santa Cruz and Santa Clara Counties.	
Brownish dubiraphian riffle beetle <i>Dubiraphia brunnescens</i>	CSSC	Aquatic; known only from the ne shore of Clear Lake, Lake County.	Inhabits exposed, wave-washed willow roots.
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	CSSC	Aquatic.	
Western bumble bee <i>Bombus occidentalis</i>	CSSC	Once common & widespread, species has declined precipitously from Central Ca to southern B.C., perhaps from disease.	
Obscure bumble bee <i>Bombus caliginosus</i>	CSSC	Open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests.	Food plants include <i>Ceanothus</i> , <i>Cirsium</i> , <i>Clarkia</i> , <i>Keckiella</i> , <i>Lathyrus</i> , <i>Lotus</i> , <i>Lupinus</i> , <i>Rhododendron</i> , <i>Rubus</i> , <i>Trifolium</i> , and <i>Vaccinium</i> .

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Borax Lake cuckoo wasp <i>Hedychridium milleri</i>	CSSC	Endemic to Central California. Only collection is from the type locality.	External parasite of wasp and bee larva.
Clear Lake pyrg <i>Pyrgulopsis ventricosa</i>	CSSC	Restricted to Seigler Creek drainage in the south end of the Clear Lake Basin.	Freshwater.
Toren's grimmia <i>Grimmia torenii</i>	1B.3	Cismontane woodland, lower montane coniferous forest, chaparral.	Openings, rocky, boulder and rock walls, carbonate, volcanic. 325-1160 m.
Elongate copper moss <i>Mielichhoferia elongata</i>	4.3	Cismontane woodland. Commonly called "copper mosses".	Moss growing on very acidic, metamorphic rock or substrate; usually in higher portions in fens. Often on substrates
Loch Lomond button-celery <i>Eryngium constancei</i>	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	1B.2	Chaparral.	Serpentine and volcanic substrates, generally in shrubby vegetation. 80-1005 m.
Burke's goldfields <i>Lasthenia burkei</i>	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia <i>Layia septentrionalis</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 145-1095m.
Hall's harmonia <i>Harmonia hallii</i>	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Serpentine cryptantha <i>Cryptantha dissita</i>	1B.2	Chaparral.	Serpentine outcrops. 330-730m.
Freed's jewelflower <i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	1B.2	Chaparral, cismontane woodland.	Serpentine rock outcrops, primarily in geothermal development areas. 490-1220 m.
Socrates Mine jewelflower <i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	1B.2	Chaparral, closed-cone coniferous forest.	Serpentine areas and serpentine chaparral. 545-1000 m.
Hoffman's bristly jewelflower <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	1B.3	Chaparral, cismontane woodland, valley and foothill grassland.	Moist, steep rocky banks, in serpentine and non-serpentine soil. 120-475m.
Green jewelflower <i>Streptanthus hesperidis</i>	1B.2	Chaparral, cismontane woodland.	Openings in chaparral or woodland; serpentine, rocky sites. 130-760m.
Watershield <i>Brasenia schreberi</i>	2B.3	Freshwater marshes and swamps.	Aquatic from water bodies both natural and artificial in California.
Cascade downingia	2B.2	Cismontane woodland, valley and foothill grasslands.	Lake margins and vernal pools.

Common Name Scientific Name	Status*	General Habitat	Microhabitat
<i>Downingia willamettensis</i>			
Legenere <i>Legenere limosa</i>	1B.1	Vernal pools.	In beds of vernal pools. 1-880 m.
Mt. Saint Helena morning-glory <i>Calystegia collina</i> ssp. <i>oxyphylla</i>	4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland.	On serpentine barrens, slopes, and hillsides. 280-1010 m.
Three-fingered morning-glory <i>Calystegia collina</i> ssp. <i>tridactylosa</i>	1B.2	Chaparral, cismontane woodland.	Rocky, gravelly openings in serpentine. 0-600 m.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop <i>Sedella leiocarpa</i>	FE/CE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 365-790 m.
Raiche's manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konocti manzanita <i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Cobb Mountain lupine <i>Lupinus sericatus</i>	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest.	In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 275-1525 m.
Napa bluecurls <i>Trichostema ruygtii</i>	1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest.	Often in open, sunny areas. Also has been found in vernal pools. 30-590m.
Woolly meadowfoam <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	4.2	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools.	Vernally wet areas, ditches, and ponds. 60-1335 m.
Glandular western flax <i>Hesperolinon adenophyllum</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils; generally found in serpentine chaparral. 150-1315 m.
Two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.
Lake County western flax <i>Hesperolinon didymocarpum</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soil in open grassland and near chaparral. 330-365m.

Common Name <i>Scientific Name</i>	Status*	General Habitat	Microhabitat
Marsh checkerbloom <i>Sidalcea oregana</i> <i>ssp. hydrophila</i>	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.
Snow Mountain buckwheat <i>Eriogonum nervulosum</i>	1B.2	Chaparral.	Dry serpentine outcrops, balds, and barrens. 300-2100 m.
Brandegee's eriastrum <i>Eriastrum brandegeae</i>	1B.1	Chaparral, cismontane woodland.	On barren volcanic soils; often in open areas. 425-840 m.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	1B.2	Chaparral, cismontane woodland.	Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 100-500m.
Baker's navarretia <i>Navarretia leucocephala</i> <i>ssp. bakeri</i>	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Vernal pools and swales; adobe or alkaline soils. 5-1740 m.
Few-flowered navarretia <i>Navarretia leucocephala</i> <i>ssp. pauciflora</i>	FE/ CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia <i>Navarretia leucocephala</i> <i>ssp. plieantha</i>	FE/ CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065 m.
Calistoga ceanothus <i>Ceanothus divergens</i>	1B.2	Chaparral.	Rocky, serpentine or volcanic sites. 170-950 m.
Bolander's horkelia <i>Horkelia bolanderi</i>	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Pink creamsacs <i>Castilleja rubicundula</i> <i>var. rubicundula</i>	1B.2	Chaparral, meadows and seeps, valley and foothill grassland.	Openings in chaparral or grasslands. On serpentine. 20-900 m.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Sonoma beardtongue <i>Penstemon newberryi</i> <i>var. sonomensis</i>	1B.3	Chaparral.	Crevices in rock outcrops and talus slopes. 700-1370 m.

Common Name <i>Scientific Name</i>	Status*	General Habitat	Microhabitat
Dimorphic snapdragon <i>Antirrhinum subcordatum</i>	4.3	Chaparral, lower montane coniferous forest.	Generally on serpentine or shale in foothill woodland or chaparral on s- and w-facing slopes. 185-800 m.
Northern meadow sedge <i>Carex praticola</i>	2B.2	Meadows and seeps.	Moist to wet meadows. 0-3200 m.
Dwarf soaproot <i>Chlorogalum pomeridianum var. minus</i>	1B.2	Chaparral, valley and foothill grassland.	Serpentine. 240-970 m.
Geysers panicum <i>Panicum acuminatum var. thermale</i>	CE/1B.2	Closed-cone coniferous forest, riparian forest, valley and foothill grassland.	Usually around moist, warm soil in the vicinity of hot springs. 305-2470 m.
California satintail <i>Imperata brevifolia</i>	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 0-1215 m.
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT/ CE/1B.1	Vernal pools.	Often in gravelly pools. 35-1760 m.
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	2B.2	Marshes and swamps.	Ponds, lakes, streams. 0-1860 m.

*Definitions of Status Codes: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CR = California rare species; CCE= California candidate for listing as Endangered; CCT= California candidate for listing as Threatened; CSSC = California species of special concern; CWL= California Watch List; CFP = California fully protected species; CBR = Considered but Rejected; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere; and CNPS List 4 = CNPS Watch List. Plants of limited distribution.

4.3.2. Listed Species or Special-status Species Observed During Field Survey

During the field survey, no special-status species were detected within the Study Area.

4.3.3. Potential for Listed Species or Special-status Species to Occur in the Study Area

The CNDDDB reported two special-status species occurrences within the vicinity of the Study Area: foothill yellow-legged frog and glandular western flax. These species were not observed during the field survey in the Study Area. However, suitable habitat for both species is present within the Study Area, but not within the Project Area itself.

The irrigated pasture/game fields within the Study Area have a low potential for harboring special-status plant and animal species due to the dominance of non-native grasses and forbs. The woodland habitats within the Study Area support a variety of native trees, shrubs and forbs, and have a moderate potential to harbor special status plant and animal species, including bent-flowered fiddleneck, fringed myotis, hoary bat, long-eared myotis, and western red bat.

Areas of undisturbed chaparral have a moderate potential to sustain special-status plant species, such as Napa bluecurls, oval-leaved viburnum, *Calistoga ceanothus*, Cobb Mountain lupine, Colusa layia, dimorphic snapdragon, dwarf soaproot, Freed's jewelflower, glandular western flax, green jewelflower, Greene's narrow-leaved daisy, Hall's harmonia, Hoffman's bristly jewelflower, Jepson's leptosiphon, Jepson's milk-vetch, Lake County western flax, Mt. Saint Helena morning-glory, pink creamsacs, Raiche's manzanita, Rincon Ridge ceanothus, serpentine cryptantha, Snow Mountain buckwheat, Socrates Mine jewelflower, three-fingered morning-glory and two-carpellate western flax.

The man-made pond in the northwestern portion of the parcel has a moderate potential to provide suitable habitat for western pond turtle, watershield, eel-grass pondweed and wooly meadowfoam. The perennial and intermittent stream corridors (Class I and II watercourses) and associated riparian vegetation can sustain diverse wildlife populations and have a moderate to high potential to support special-status animal species including foothill yellow-legged frog and osprey.

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees and poles. However, no nests or nesting activity was observed in the project area during the field survey.

4.4. POTENTIALLY-JURISDICTIONAL WATER RESOURCES

An informal assessment for the presence of potentially-jurisdictional water resources within the Study Area was also conducted during the field survey.

For purposes of this biological site assessment, non-wetland waters were classified using the California Forest Practice Rules. The California Forest Practice Rules define a Class I watercourse as 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source; a Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1000 feet of a watercourse that seasonally or always has fish present; a Class III watercourse is a watercourse with no aquatic life present and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions.

The USFWS National Wetland Inventory (see Appendix 1) reported 4 water features within the Study Area: one Class I watercourse, two Class II watercourses and one freshwater pond.

Area is not within the coverage area of any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Recommended Mitigation Measures

No mitigation is necessary.

The Project Area does not contain any channels or wetlands. The following water features were detected within the Study Area during the field survey (see Exhibits):

- one Class I watercourse,
- two Class II watercourses,
- three Class III watercourses,
- one spring-fed, man-made freshwater pond
- and riverine wetlands.

There are no vernal pools or other isolated wetlands in the Study Area.

5. IMPACT ANALYSES AND MITIGATION MEASURES

This section establishes the impact criteria, then analyzes potential Project-related impacts upon the known biological resources within the Study Area, and then suggests mitigation measures to reduce these impacts to a less-than-significant level.

5.1. IMPACT SIGNIFICANCE CRITERIA

The significance of impacts to biological resources depends upon the proximity and quality of vegetation communities and wildlife habitats, the presence or absence of special-status species, and the effectiveness of measures implemented to protect these resources from Project-related impacts. As defined by CEQA, the Project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by USFWS or CDFW
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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 county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

5.2. IMPACT ANALYSIS

The following discussion evaluates the potential for Project-related activities to adversely affect biological resources. The Project boundaries were digitized and then overlaid on the habitat map using GIS to quantify potential impacts. Historical aerial photos were also analyzed for changes in land use.

5.2.1. Potential Direct / Indirect Adverse Effects Upon Special-status Species

- *Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

No special-status species were detected within the Study Area. The CNDDDB reported two special-status species occurrences within the vicinity of the Study Area: foothill yellow-legged frog and glandular western flax. These species were not observed during the field survey in the Study Area. However, suitable habitat for both species is present within the Study Area (in the area marked, see Exhibits), but not within the Project Area itself. The pasture/game fields within the Study Area have a low potential for harboring special-status plant species due to the dominance of non-native grasses and forbs. The watercourses and riparian habitats within the Study Area can sustain aquatic special-status species. The chaparral and woodland habitats within the Study Area can sustain special-status plant and animal species.

The installation of the cultivation area will occur on areas that were previously maintained as recreational game fields. The cannabis cultivation / operation area is 100 feet away from the nearest watercourse. Chaparral and woodland habitats will not be impacted by project construction. Because the operational areas are situated on areas that are disturbed or lack sensitive habitats and set back well away from channels and other aquatic habitats, no impacts to special-status species should occur from project implementation. Therefore, no mitigation is required.

If land clearing is performed in the future, a pre-construction special-status species survey is recommended.

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees and poles. However, no nests or nesting activity was observed in the project area during the field survey. Trees must be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the project area during construction of the project, CDFW should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

Recommended Mitigation Measures

If construction activities would occur during the nesting season (typically February through August), a pre-construction survey for the presence of special-status bird species or any nesting bird species should be conducted by a qualified biologist within 500 feet of proposed construction areas. If active nests are identified in these areas, CDFW and/or USFWS should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

With the implementation of this mitigation measure, adverse impacts upon special-status bird species and nesting birds would be reduced to a less-than-significant level.

5.2.2. Potential Direct / Indirect Adverse Effects Upon Special-status Habitats or Natural Communities or Corridors

- *Will the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The Study Area is not within any designated listed species' critical habitat.

The Study Area contains one terrestrial special-status habitat: riparian corridors along the watercourses. Undisturbed woodland and chaparral habitat may support a variety of special-status species. However, there is no evidence that project implementation will impact riparian, woodland, or chaparral habitats. Therefore, no mitigation is required.

Recommended Mitigation Measures

No mitigation is necessary.

5.2.3. Potential Direct / Indirect Adverse Effects On Jurisdictional Water Resources

- *Will the project 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?*

There are several water resources within the Study Area: one Class I watercourse, two Class II watercourses, three Class III watercourses, one freshwater pond and riverine wetlands. Potential direct impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation or the filling of wetlands. However, the operational areas are situated on areas that are set back well away from channels and other aquatic habitats, no impacts to Jurisdictional Water Resources should occur from project implementation.

Cultivators who enroll in the State Water Board's Waste Discharge Requirements for Cannabis Cultivation Order WQ 2019-0001-DWQ must comply with the Minimum Riparian Setbacks, as summarized in the following table. The Project would be considered to have a significant adverse impact on jurisdictional water resources if it would be non-compliant with these requirements. The minimum riparian setbacks apply to all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, diesel powered pump locations, water storage areas, and chemical toilet placement).

Minimum Riparian Setbacks

Common Name	Watercourse Class	Distance
Perennial watercourses, waterbodies (e.g. lakes, ponds), or springs	I	150 ft.
Intermittent watercourses or wetlands	II	100 ft.
Ephemeral watercourses	III	50 ft.
Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established riparian zone vegetation

The proposed project is compliant with the setback requirements of Cannabis Cultivation Order WQ 2019-0001-DWQ. Potential indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance.

The total area of ground disturbance from installation of the cultivation operation is more than 1 acre; therefore, the Cultivator will need to enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

The Study Area does not have a significant erosion potential, because slopes are not steep, areas of ground disturbance are small, and vegetated buffers are present. Therefore, no mitigation is required.

Ongoing compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, inspections and reporting, and regulatory oversight. Therefore, no mitigation is required.

Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into receiving waterbodies. However, the project proponent must file a Notice of Intent and enroll in Cannabis Cultivation Order WQ 2019-0001-DWQ. Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight. Therefore, no mitigation is required.

It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed near any wetland or drainage.

Recommended Mitigation Measures

No impacts were identified, and therefore no mitigation measures are proposed.

5.2.4. Potential Impacts to Wildlife Movement, Corridors, etc.

- *Will the project 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?*

Although no mapped wildlife corridors (such as the California Essential Habitat Connectivity Area layer in CNDDDB) exist within or near the Study Area, the open space and the stream corridors in the Study Area, including Kelsey Creek, facilitate animal movement and migrations. While the Study Area may be used by wildlife for movement or migration, the Project would not have a significant impact on this movement because it would not block movement and the majority of the Study Area would still be available.

Implementation of the proposed project would necessitate erection of security fences around the cultivation compounds. These fences do not allow animal movement and may act as a local barrier to wildlife movement. However, the fenced cultivation areas are surrounded by open space, allowing wildlife to move around these fenced areas. Thus, implementation of the proposed project is a less than significant impact upon wildlife movement. Implementation of the project will not 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.

Recommended Mitigation Measures

No mitigation is necessary.

5.2.5. Potential Conflicts With Ordinances, Habitat Conservation Plans, etc.

- *Will the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*
- *Will the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved governmental habitat conservation plan. The Study

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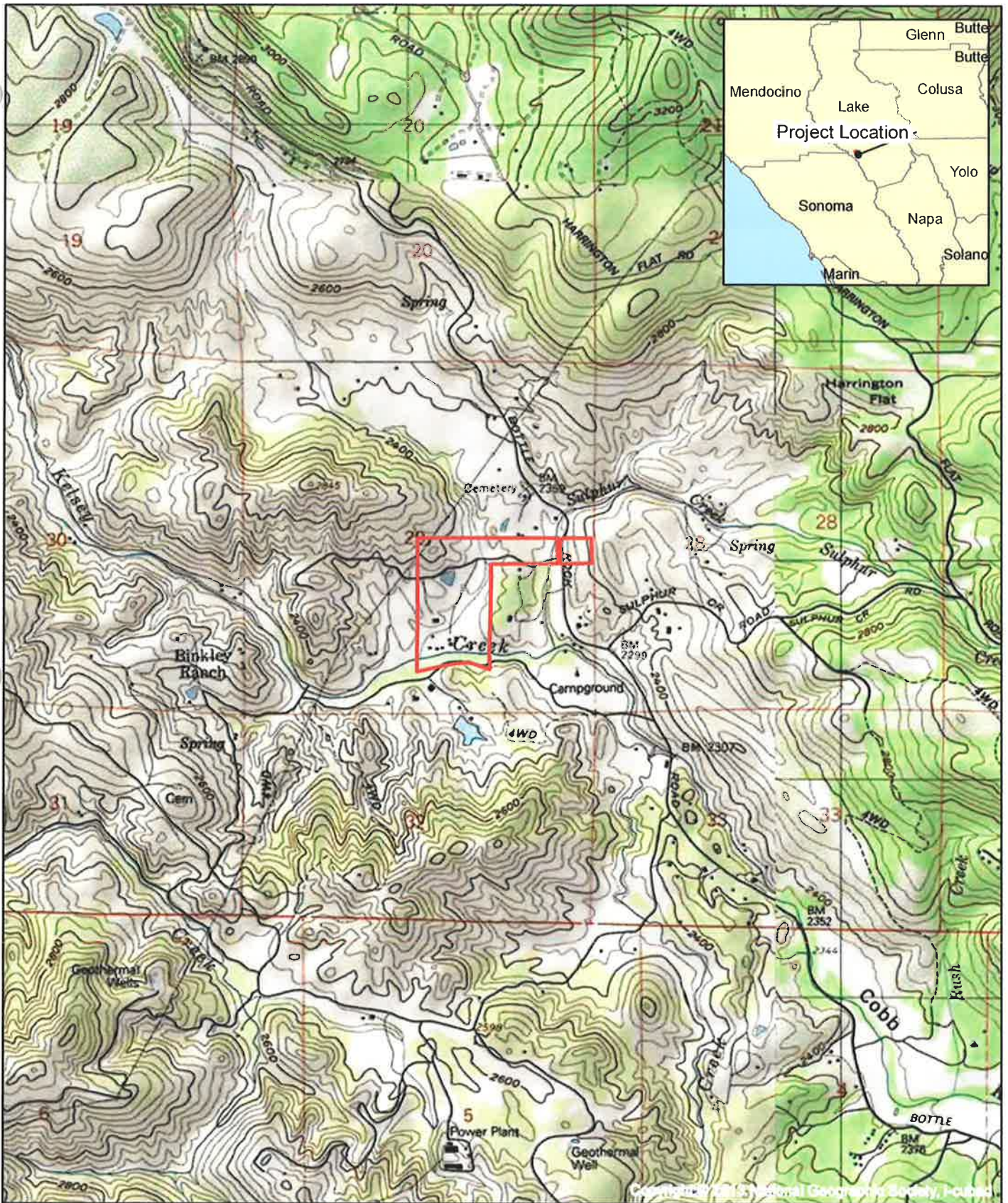
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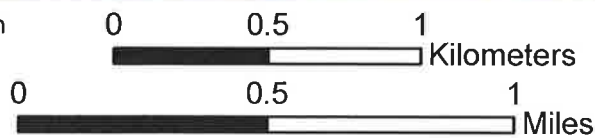
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EXHIBITS



 Parcel Location

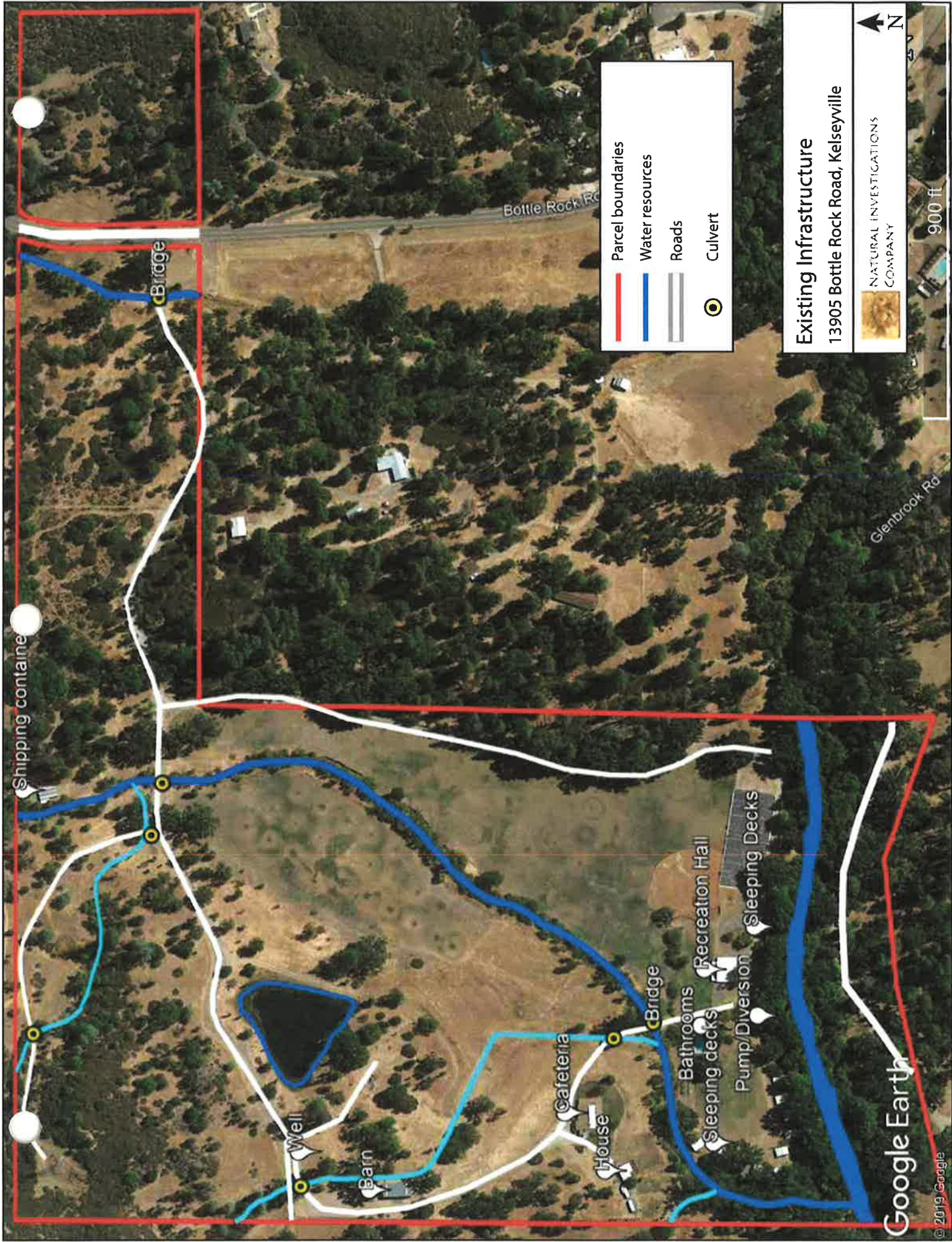


1:24,000

13095 Bottle Rock Road
Parcel Location Map



NATURAL
INVESTIGATIONS
COMPANY



- Parcel boundaries
- Water resources
- Roads
- Culvert

Existing Infrastructure
13905 Bottle Rock Road, Kelseyville

NATURAL INVESTIGATIONS
COMPANY

900 ft



Shipping containers

Garden (Proposed)

Well

Garden (Proposed)

Parcel boundaries

Roads

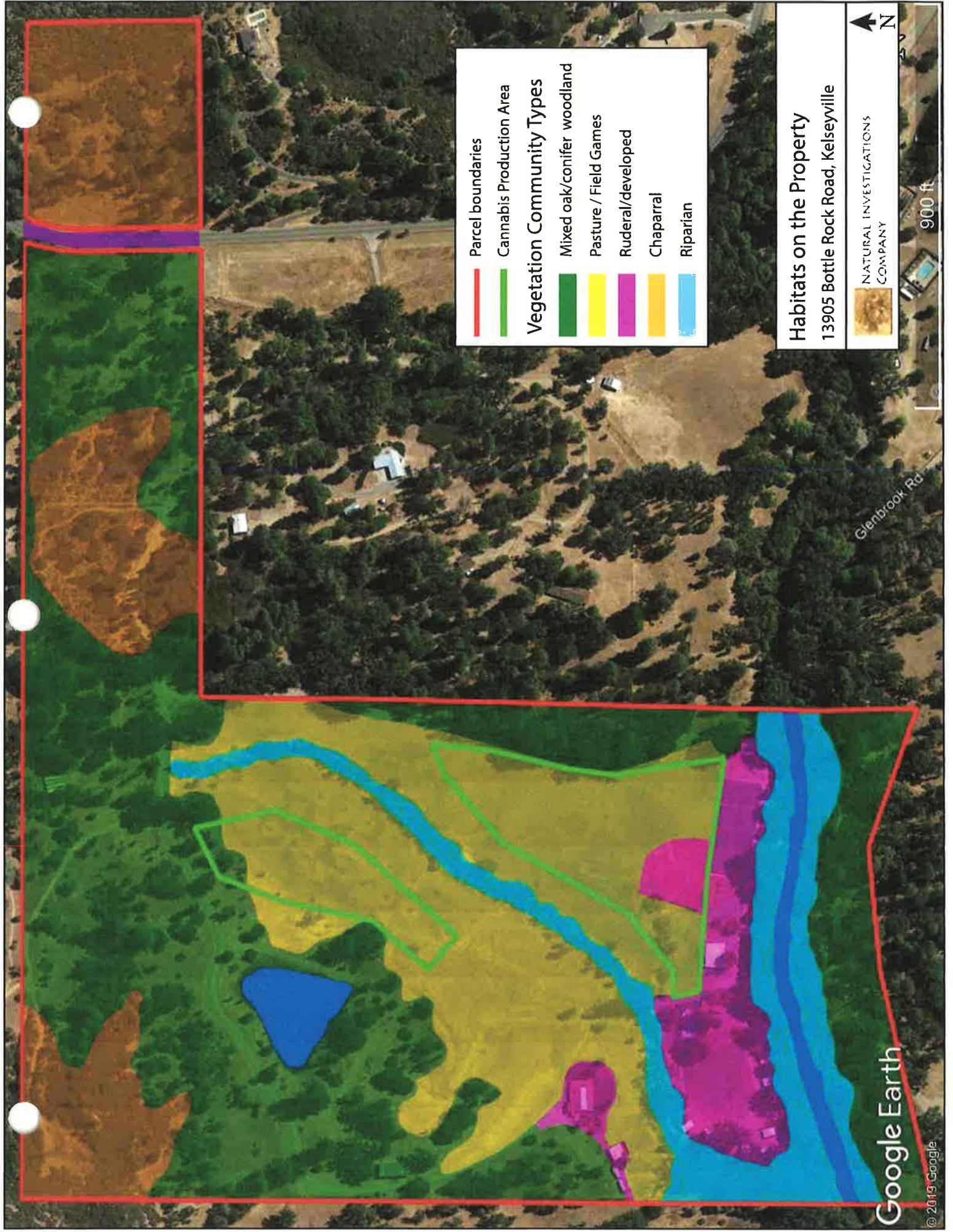
Proposed Project Features

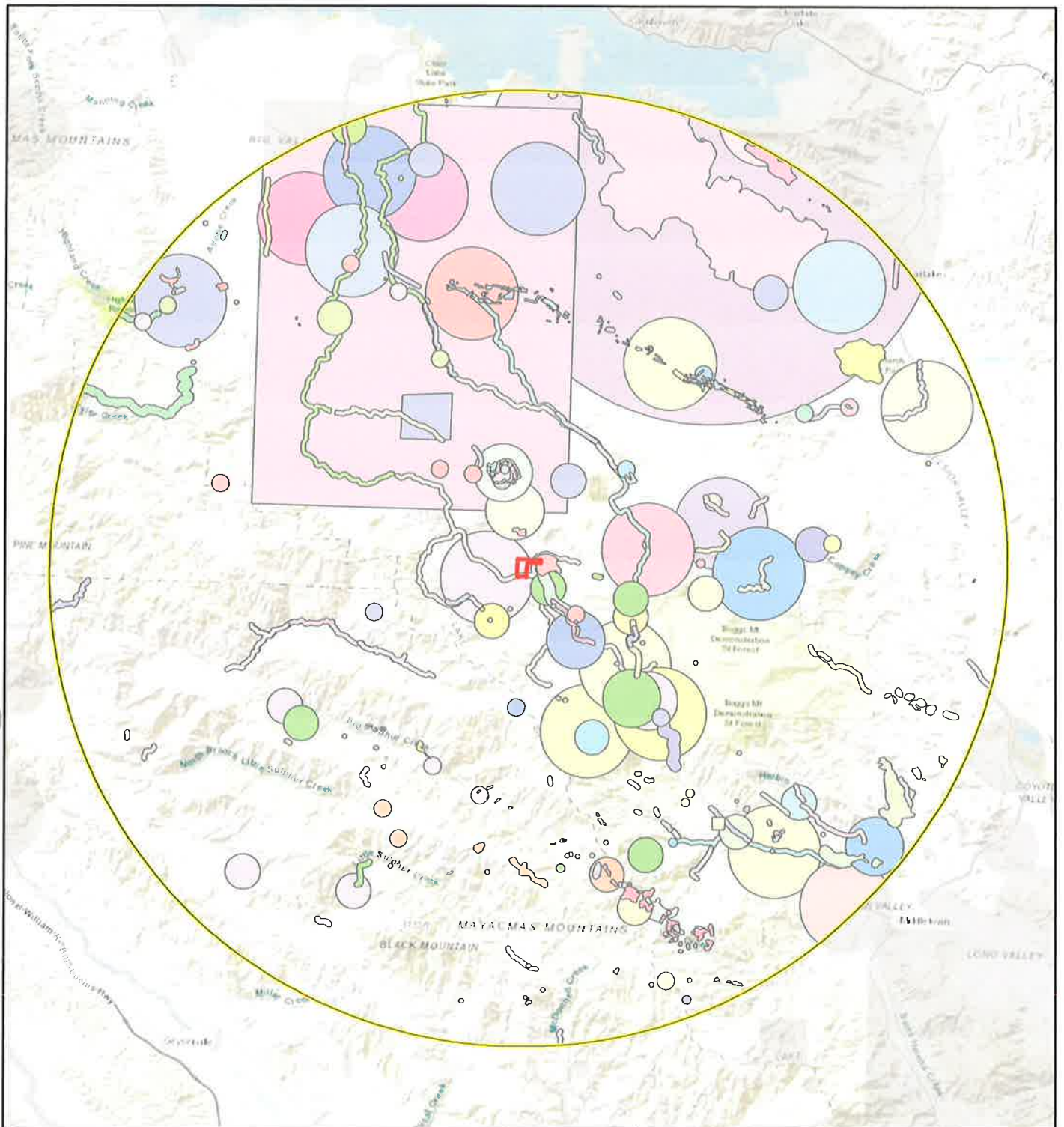
13905 Bottle Rock Road, Kelseyville

NATURAL INVESTIGATIONS
COMPANY

N

800 ft





Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files. The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. Data Sources: California Department of Fish and Wildlife. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)

Special-Status Species Occurrences Map

13095 Bottle Rock Road

The Geysers 1991 Quadrangle: Township 12N, Range 8W, Section 29



NATURAL INVESTIGATIONS CO.

WWW.NATURALINVESTIGATIONS.COM

Suitable Habitat for Glandular Western Flax

Bottle Rock Rd

515

Glenbrook Rd

Garden (Proposed)

Garden (Proposed)

Suitable Habitat for Foothill Yellow-legged Frog (Blue lines)

Suitable Habitats on the Property
13905 Bottle Rock Road, Kelseyville



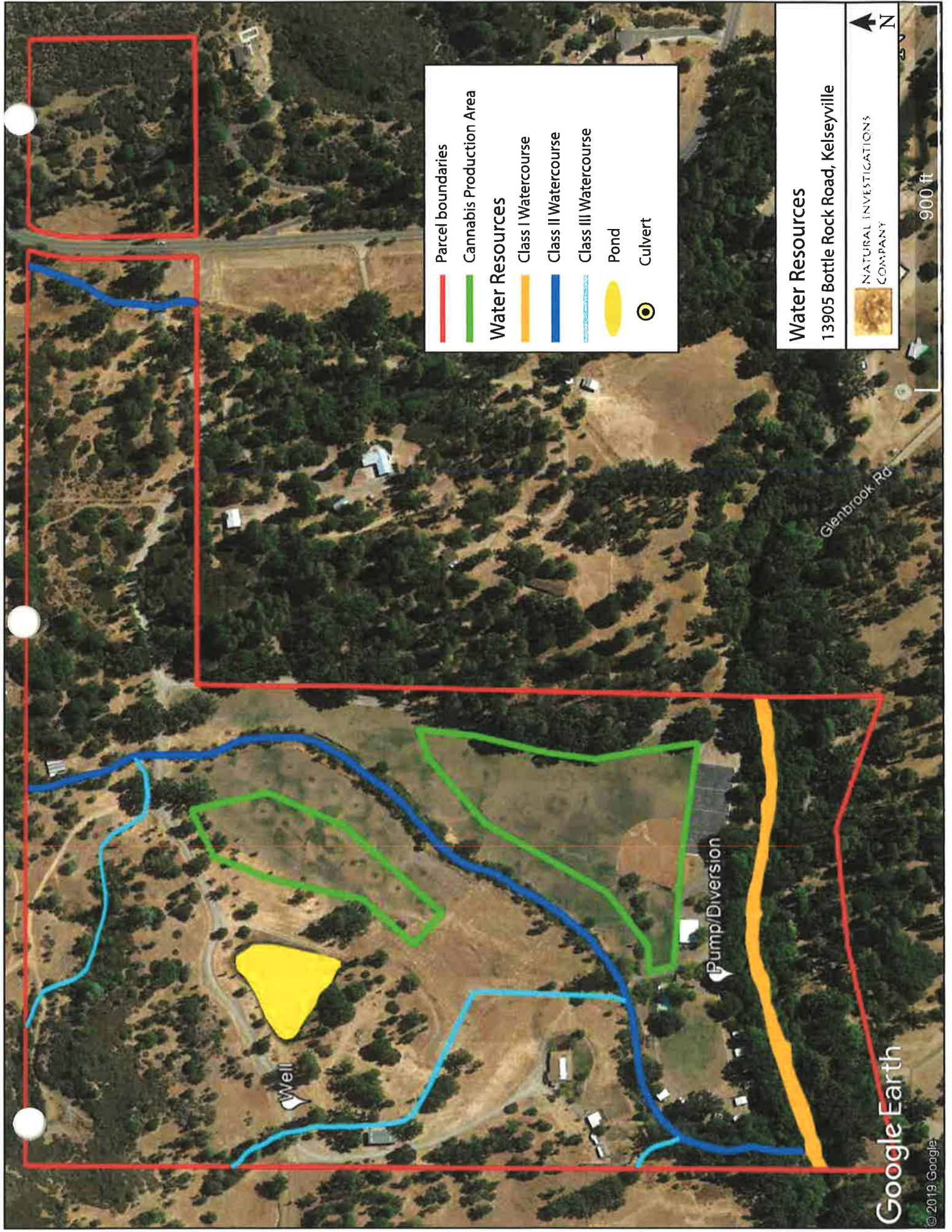
NATURAL INVESTIGATIONS
COMPANY



1000 ft

Google Earth

© 2019 Google



	Parcel boundaries
	Cannabis Production Area
Water Resources	
	Class I Watercourse
	Class II Watercourse
	Class III Watercourse
	Pond
	Culvert

**NATURAL INVESTIGATIONS
COMPANY**

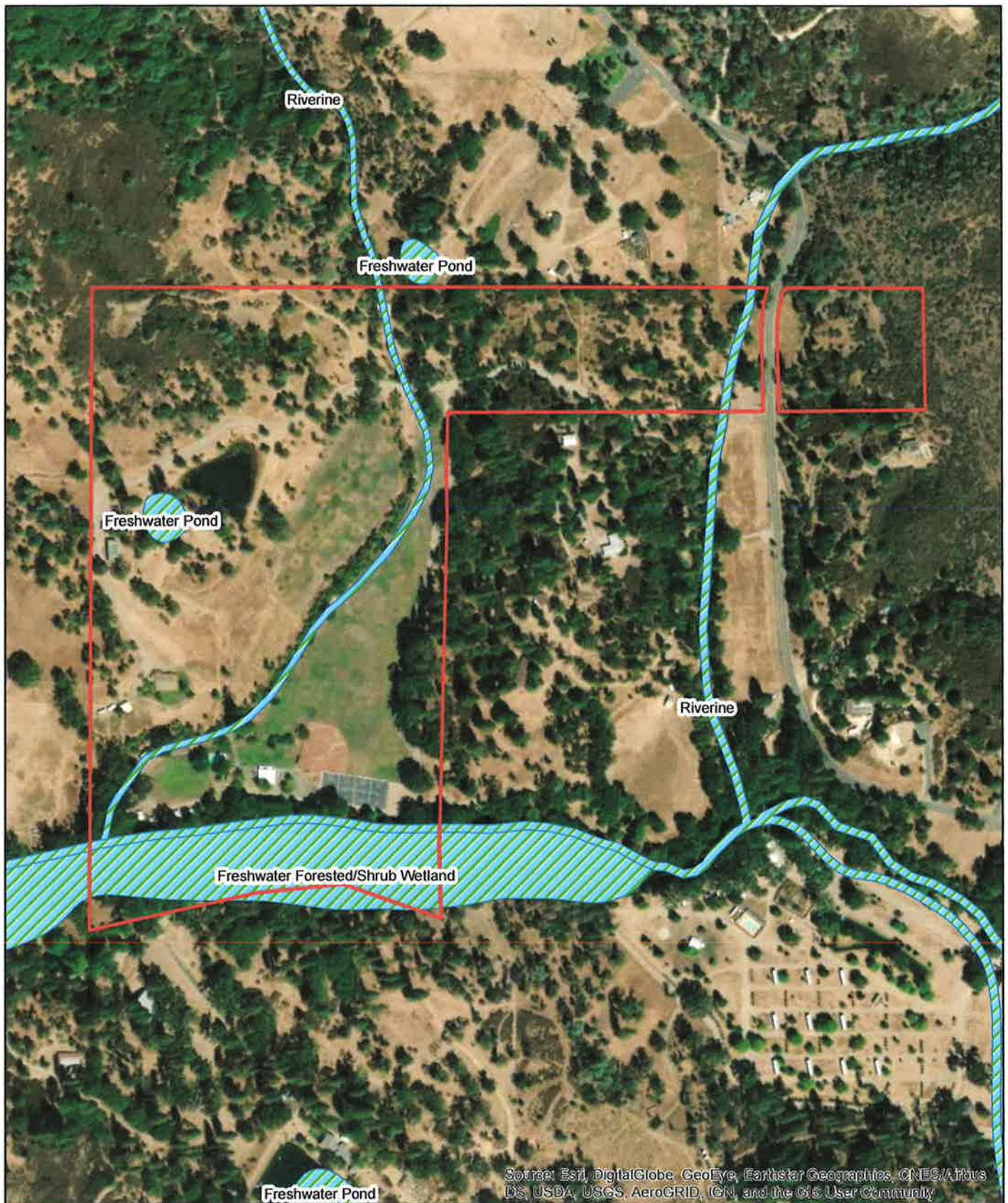
Water Resources
13905 Bottle Rock Road, Kelseyville

**N**

900 ft

**Google Earth**

© 2019 Google



Parcel Location	0 125 250 Meters		13095 Bottle Rock Road National Wetlands Inventory Features Map
Wetlands and Channels	0 500 1,000 Feet 1:5,000		

APPENDIX 1: USFWS SPECIES LIST



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:

January 10, 2020

Consultation Code: 08ESMF00-2020-SLI-0750

Event Code: 08ESMF00-2020-E-02359

Project Name: 13095 Bottle Rock Road, Kelseyville

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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 Tracking Number 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

Consultation Code: 08ESMF00-2020-SLI-0750

Event Code: 08ESMF00-2020-E-02359

Project Name: 13095 Bottle Rock Road, Kelseyville

Project Type: AGRICULTURE

Project Description: Agriculture

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.85757200261213N122.76799062100747W>



Counties: Lake, CA

Endangered Species Act Species

There is a total of 9 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 Fisheries¹, 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 <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered

Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Few-flowered Navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (=N. <i>pauciflora</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8242	Endangered
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

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

APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Appendix 2:

Plants Observed at 13095 Bottle Rock Road, Kelseyville, January 9, 2020

Common Name	Scientific Name
Yarrow	<i>Achillea millefolium</i>
Lotus	<i>Acmispon sp.</i>
Chamise	<i>Adenostoma fasciculatum</i>
Water plantain	<i>Alisma plantago-aquatica</i>
White alder	<i>Alnus rhombifolia</i>
Madrone	<i>Arbutus menziesii</i>
Eastwood's manzanita	<i>Arctostaphylos glandulosa</i>
Whiteleaf manzanita	<i>Arctostaphylos viscida</i>
California mugwort	<i>Artemisia douglasiana</i>
Narrowleaf milkweed	<i>Asclepias fascicularis</i>
Slender wildoat	<i>Avena barbata</i>
Coyote brush	<i>Baccharis pilularis</i>
Brodiaea	<i>Brodiaea sp.</i>
Ripgut brome	<i>Bromus diandrus</i>
Soft chess	<i>Bromus hordeaceus</i>
Incense cedar	<i>Calocedrus decurrens</i>
Italian thistle	<i>Carduus pycnocephalus</i>
Sedge	<i>Carex spp.</i>
Wedgeleaf ceanothus	<i>Ceanothus cuneatus</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Birch-leaf mountain mahogany	<i>Cercocarpus betuloides</i>
Soap plant	<i>Chlorogalum sp.</i>
Bull thistle	<i>Cirsium vulgare</i>
Clarkia	<i>Clarkia spp.</i>
Poison hemlock	<i>Conium maculatum</i>
Hairy bird's beak	<i>Cordylanthus pilosus ssp. pilosus</i>
Brown dogwood	<i>Cornus glabrata</i>
Dove weed	<i>Croton setiger</i>
Hedgehog dogtail grass	<i>Cynosurus echinatus</i>
Tall flatsedge	<i>Cyperus eragrostis</i>
Orchard grass	<i>Dactylis glomerata</i>
Wild teasel	<i>Dipsacus fullonum</i>
Medusa-head grass	<i>Elymus caput-medusae</i>
Blue wildrye	<i>Elymus glaucus</i>
Tall willowherb	<i>Epilobium brachycarpum</i>
Dense-flowered willowherb	<i>Epilobium densiflorum</i>
Naked buckwheat	<i>Eriogonum nudum</i>
Filaree	<i>Erodium cicutarium</i>
California poppy	<i>Eschscholzia californica</i>
Tall fescue	<i>Festuca arundinacea</i>
California fescue	<i>Festuca californica</i>
Pacific fescue	<i>Festuca microstachys</i>
Italian ryegrass	<i>Festuca perennis</i>
Oregon ash	<i>Fraxinus latifolia</i>
Bedstraw	<i>Galium sp.</i>
Nit grass	<i>Gastridium nitidum</i>
Hayfield tarplant	<i>Hemizonia congesta ssp. luzifolia</i>
Klamath weed	<i>Hypericum perforatum</i>
Rush	<i>Juncus spp.</i>

Common Name	Scientific Name
Lomatium	<i>Lomatium sp.</i>
Pink honeysuckle	<i>Lonicera hispidula</i>
Common madia	<i>Madia elegans</i>
Navarretia	<i>Navarretia sp.</i>
Foothill penstemon	<i>Penstemon heterophyllus</i>
Goldback fern	<i>Pentagramma triangularis</i>
Yampah	<i>Perideridia sp.</i>
Water smartweed	<i>Persicaria sp.</i>
Harding grass	<i>Phalaris aquatica</i>
Oak mistletoe	<i>Phoradendron leucarpum ssp. tomentosum</i>
Knobcone pine	<i>Pinus attenuata</i>
Ponderosa pine	<i>Pinus ponderosa</i>
Gray pine	<i>Pinus sabiniana</i>
English plantain	<i>Plantago lanceolata</i>
California scrub oak	<i>Quercus berberidifolia</i>
Blue oak	<i>Quercus douglasii</i>
Leather oak	<i>Quercus durata</i>
California black oak	<i>Quercus kelloggii</i>
Valley oak	<i>Quercus lobata</i>
Interior live oak	<i>Quercus wislizeni</i>
California rose	<i>Rosa californica</i>
Wood rose	<i>Rosa gymnocarpa</i>
Himalayan blackberry	<i>Rubus armeniacus</i>
California blackberry	<i>Rubus ursinus</i>
Curly dock	<i>Rumex crispus</i>
Red willow	<i>Salix laevigata</i>
Arroyo willow	<i>Salix lasiolepis</i>
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>
Blue-eyed grass	<i>Sisyrinchium bellum</i>
Brewer willow	<i>Salix breweri</i>
Goldenrod	<i>Solidago sp.</i>
Western aster	<i>Symphyotrichum sp.</i>
Tall sock-destroyer	<i>Torilis arvensis</i>
Poison-oak	<i>Toxicodendron diversilobum</i>
Narrowleaf cattail	<i>Typha angustifolia</i>
Broadleaf cattail	<i>Typha latifolia</i>
Stinging nettles	<i>Urtica dioica</i>
Common mullein	<i>Verbascum thapsus</i>
European grape	<i>Vitis vinifera</i>
Mules-ears	<i>Wyethia sp.</i>

APPENDIX 3: SITE PHOTOS



