BIOLOGICAL SITE ASSESSMENT FOR THE CANNABIS CULTIVATION OPERATION AT 1000 & 1270 HIGHWAY 53, CLEARLAKE, CALIFORNIA

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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

The Lake County Investments, LLC cannabis cultivation operation is located on a 106-acre property on the east side of Highway 53 within unincorporated Lake County, California, approximately 1 mile north of the City of Clearlake. The property consists of 2 parcels: 1000 State Highway 53, 48.6 acres, APN 53010-055-27; and 1270 State Highway 53, 56.9 acres, APN 010-055-26. The is accessed from the south or north on Ogulin Canyon Road (see exhibits), which is a gravel road with asphalt sections. There is a large locked gate on Ogulin Canyon Road to the south, and then another locked gate at the entrance to the northern parcel (APN 010-055-27), which provides access to the southern parcel as well. Aside from water supply systems and dirt roads, the Property is undeveloped.

The cultivator is seeking to cultivate five (5) acres of outdoor Cannabis canopy within two distinct areas containing approximately 20 acres of cultivation area within fenced enclosures (approximately 10 acres each). The applicant has already submitted a Major Use Permit application (UP 19-49, EA 19-74, IS 19-71) for cultivation on the northern parcel and cultivation is commencing under Early Activation permitting. The cultivation operation is designed to have minimal environmental impacts. No grading will be performed, and only light vegetation clearing is needed. Immature trees (under 4 inches in diameter) will be removed, but mature trees will not be removed. Cultivation will occur in individual grow bags filled with imported soil. The existing agricultural water system will be used to irrigate each fabric pot using drip lines. There are two wells, one propane-powered pumphouse, and an 8,000 gallon cement cistern on the northern property. There is one well and an 11,000-gallon cement cistern on the southern property. Poly water tanks, ranging from 500 to 5,000 gallons in size, will be used to store water and mix nutrients.

No permanent structures are planned at this time. There is a mobile office trailer on the north parcel that is used as a security office and for chemical storage. Additional stormproof sheds will be used for chemical storage and equipment storage. Each cultivation compound will have a quarantine area / administrative hold area, as required by CalCannabis: this will consist of secure sheds (approx. 10 by 12 feet in dimensions). Electrical power, to be used for lighting, electrical equipment, and surveillance, will be generated from a photovoltaic array with batteries. PG&E electrical service may also be extended on to the site. Each cultivation compound will be surrounded with a 6-foot tall security fence. Privacy screening may be erected on the west side of the cultivation compounds to screen views from Highway 53, if required by the County.

For this assessment, the Project Area was defined as the 2 cultivation areas plus the ancillary facilities, and these two 10-acre areas were the subject of the impact analysis. The entire 106-acre property was defined as the Study Area. The Study Area is defined to identify biological resources adjacent to the Project Area, and is the area subject to potential indirect effects from Project implementation.

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 Act, and is required by Lake County. 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).

In support of this permit enrollment application and general compliance California Environmental Quality Act, Natural Investigations Co. has prepared this assessment to provide 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 Biological Site 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 tasks above.

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 are in climate Zone 7, California's Gray Pine Belt, with hot summers and mild but pronounced winters without severe winter cold or high humidity (Brenzel, 2012).

The Study Area was previously operated as a cattle ranch, but has now reverted to natural open space. A cattle crossing under Highway 53 on the western boundary connects to an area that has largely been converted to vineyard. Aside from the existing water supply systems (wells, pumphouse, and cisterns), a fenced garden with raised beds (not currently in use), and dirt roads, the Study Area is undeveloped. The surrounding land uses are vineyard and highway transportation corridor to the west and southwest, and grazing and timberland and open space to the north, east, and south.

The topography of the study area is characterized as gently sloping hillside. The elevation ranges from approximately 1,480 feet to 1,680 feet above mean sea level. Drainages within the Study Area eventually merge and run southwest, emptying into Clear Lake. Clear Lake is the headwaters for Cache Creek, which flows east and eventually joins the Sacramento River.

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 (CNDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

3.2. FIELD SURVEY

Consulting biologist Ted Hermansen, MS. conducted a reconnaissance-level field survey on September 19, 2019. Botanist and Senior biologist Tim Nosal, MS. conducted another field survey on October 1, 2020. The perimeter of all accessible areas, as well as representative transects through large expanses of open habitat were walked. All dirt roads were driven slowly with periodic stops. Dense vegetation in chaparral and woodlands prevented access in some areas. Potential water resources were examined closely. 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 (or their habitat) that had documented occurrences in the CNDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

When a plant 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. Dr. Graening holds the following scientific collection permits: CDFW Scientific Collecting Permit No. SC-006802; and CDFW Plant Voucher Specimen Permit 09004. 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 (2019); CDFW (2019b,c); NatureServe 2019; and University of California at Berkeley (2019a,b).

The locations of any observed special-status species and/or aquatic resources 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 recorded on color aerial photographs, and then 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, 2019c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2019), Calflora (2019); CDFW (2019a,b,c); and University of California at Berkeley (2019a,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: northwestern fence lizard (*Sceloporus occidentalis occidentalis*); coyote (*Canis latrans*; sign); California quail (*Callipepla californica*); turkey vulture (*Cathartes aura*); oak titmouse (*Baeolophus inornatus*); acorn woodpecker (*Melanerpes formicivorus*), wild turkey (*Meleagris gallopavo*); common raven (*Corvus corax*); wrentit (*Chamaea fasciata*); Stellar's jay (*Cyanocitta stelleri*), Botta's pocket gopher (*Thomomys bottae*, sign); and tule elk (*Cervus elaphus nannodes*).

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

4.2.1. Terrestrial Vegetation Communities

The Study Area contains the following terrestrial vegetation communities: ruderal/developed; non-native grassland, mixed oak / conifer woodland, chaparral, and blue oak woodland. These vegetation communities are discussed here and are delineated in the Exhibits. Aquatic vegetation communities are discussed in the section on jurisdictional waters.

Ruderal/Developed: These areas consist of disturbed or converted natural habitat that are now either in a ruderal (constantly disturbed) state, or urbanized with gravel roads, or structure and utility placement. These areas include roads and parking areas, residences, outbuildings, gardens, and lawn. Vegetation within this habitat type consists primarily of nonnative ornamental plants or invasive species lacking a consistent community structure.

Non-native Annual Grassland: The non-native grassland habitat is primarily comprised of non-native annual grasses and herbs. Plants common in this habitat type include Medusahead grass (*Elymus caput-medusae*), wand tarplant (*Holocarpha virgata*), slender wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), winter vetch (*Vicia villosa*), spring vetch (Vicia sativa) and Italian ryegrass (*Festuca* perennis). Within the Study Area this community contained a high percentage of medusahead (*Taeniatherum caput-medusae*) on the hillside along the southern boundary. Other areas contained small patches of native grasses, such as purple needle grass (*Stipa pulchra*). This vegetation can be classified as the Holland Type "Non-native Grassland," and "Elymus caput-medusae" (CDFW 2020).

Mixed Oak / Conifer Woodland: The community contains a high diversity of tree species on north-facing slopes, including: blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*), gray pine/foothill pine (*Pinus sabiniana*), black oak (*Quercus kelloggii*), madrone (*Arbutus menziesii*), ponderosa pine (*Pinus ponderosa*), valley oak (*Quercus lobata*), and coast live oak (*Quercus agrifolia*). Although the upper canopy is often fairly dense this community, open patches can have an understory of chaparral or non-native grassland plants.

Chaparral: The community occurs in xeric, often south-facing slopes, as a successional stage between grasslands and tree dominated landscapes. It is often dominated by shrubs such as manzanita (*Arctostaphylos* spp.), chamise (*Adenostoma fasciculatum*), deerbrush and buckbrush (*Ceanothus* spp.), coyote brush (*Baccharis pilularis*), and toyon (*Heteromeles arbutifolia*). Poison-oak (*Toxicodendron diversilobum*) and yerba santa (*Eriodictyon californicum*) are also common.

Blue Oak Woodland: This vegetation community consists of scattered blue oak trees in from nearly closed-canopy to savanna-like conditions and is usually associated with shallow, rocky,

infertile, well-drained soils. Blue oaks are often the only trees species present. The density of trees is related to availability of water. Although chaparral shrubs may be present, annual grasses and forbs dominate the understory.

4.2.2. Wildlife Habitat Types

The habitat types found within the Study Area are classified as “Urban”, “Blue Oak-Foothill Pine”, “Blue Oak Woodland”, “Annual Grassland” and “Mixed Chaparral” wildlife habitat types by CDFW’s Wildlife Habitat Relationship System (WHR).

4.2.3. Critical Habitat and Special-status Habitat

No critical habitat for any species listed under FESA occurs within the Study Area. No CNDDB records for special-status habitats were detected within the Study Area; however, there are two Class II water courses, and a class III water courses noted during the site survey. Within a 10-mile radius of the Study Area, the CNDDB reported the following special-status habitats: great valley mixed riparian forest (G2/S2.2), northern basalt flow vernal pool (G3/S2.2), northern volcanic ash vernal pool (G1/S1.1), northern basalt flow vernal pool, and coastal and valley freshwater marsh (G3/S2.1). The nearest special-status habitat in CNDDB is great valley riparian forest, 3.85 miles to the northwest.

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. Although no mapped wildlife corridors (such as the California Essential Habitat Connectivity Area layer in CNDDB) exist within or near the Study Area, the open space and the stream corridors in the Study Area facilitate animal movement and migrations. Additionally, the cattle undercrossing on the western border of the Study Area under Highway 53 is likely used by several species, including deer. No fishery resources exist in or near the Study Area. The Study Area is not located within any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

4.3. 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 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:

- A spatial query of the CNDDB within 10 miles of 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
- Any other known previous readily available biological resource studies pertaining to the Study Area

The CNDDB 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 CNDDB reported two special-status species occurrences within the Study Area, eel-grass pondweed (*Potamogeton zosteriformis*, S3/2B.2) and bent-flowered fiddle neck (*Amsinckia lunaris*; G3/S3/1B.2). The eel-grass pondweed occurrence is an historical (1945) record with a 5-mile radius; therefore, it is non-specific and not reliable. The bent-flowered fiddle neck record is from 1980 and occurs along Highway 53, immediately adjacent to the Study Area.

Within a 10-mile buffer of the Study Area boundary, the CNDDB reported several special-status species occurrences, summarized in the following table.

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

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**
PLANTS				
Amsinckia lunaris	bent-flowered fiddleneck	S3/1B.3	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	50-500M.
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	S3/1B.3	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.	VOLCANIC SOILS. 395-1615 M.
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	S2/1B.1	CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.	ROCKY, SERPENTINE SITES. SLOPES AND RIDGES. 450-1000 M.
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	S3/1B.2	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.	COMMONLY ON SERPENTINE IN GRASSLAND OR OPENINGS IN CHAPARRAL. 180-1000 M.
Balsamorhiza macrolepis	big-scale balsamroot	S2/1B.2	CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.	SOMETIMES ON SERPENTINE. 90-1555 M.
Brasenia schreberi	watershield	S3/2B.3	FRESHWATER MARSHES AND SWAMPS.	AQUATIC FROM WATER BODIES BOTH NATURAL AND ARTIFICIAL IN CALIFORNIA.
Brodiaea rosea	Indian Valley brodiaea	CE/G2/S2	Strictly serpentine soils. Occurs usually in wetlands, occasionally in non-wetlands (Calflora 2019)	-
Calystegia collina ssp. tridactylosa	three-fingered morning-glory	S1/1B.2	CHAPARRAL, CISMONTANE WOODLAND.	ROCKY, GRAVELLY OPENINGS IN SERPENTINE. 0-600 M.
Castilleja rubicundula var. rubicundula	pink creamsacs	S2/1B.2	CHAPARRAL, MEADOWS AND SEEPS, VALLEY AND FOOTHILL GRASSLAND.	OPENINGS IN CHAPARRAL OR GRASSLANDS. ON SERPENTINE. 20-900 M.
Centromadia parryi ssp. parryi	pappose tarplant	S2/1B.2	COASTAL PRAIRIE, MEADOWS AND SEEPS, COASTAL SALT MARSH, VALLEY AND FOOTHILL GRASSLAND.	VERNALLY MESIC, OFTEN ALKALINE SITES. 2-420M.
Downingia willamettensis	Cascade downingia	S2/2B.2	Community association: Yellow Pine Forest, Douglas-Fir Forest, Redwood Forest, wetland-riparian. Occurs in wetlands (Calflora 2019)	-
Eriastrum brandegeeae	Brandegee's eriastrum	S1/1B.1	CHAPARRAL, CISMONTANE WOODLAND.	ON BARREN VOLCANIC SOILS; OFTEN IN OPEN AREAS. 425-840 M.
Eriastrum tracyi	Tracy's eriastrum	CR/S3	CHAPARRAL, CISMONTANE WOODLAND.	GRAVELLY SHALE OR CLAY; OFTEN IN OPEN AREAS. 315-760 M.
Erigeron greenei	Greene's narrow-leaved daisy	S3/1B.2	CHAPARRAL.	SERPENTINE AND VOLCANIC SUBSTRATES, GENERALLY IN SHRUBBY VEGETATION. 80-1005 M.

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**
Eriogonum nervulosum	Snow Mountain buckwheat	G2/S2/1B.2	CHAPARRAL.	DRY SERPENTINE OUTCROPS, BALDS, AND BARRENS. 300-2100 M.
Eryngium constancei	Loch Lomond button-celery	FE/CE/G1/S1/1B.1	VERNAL POOLS.	VOLCANIC ASH FLOW VERNAL POOLS. 460-855 M.
Extriplex joaquinana	San Joaquin spearscale	G2/S2/1B.2	CHENOPOD SCRUB, ALKALI MEADOW, PLAYAS, VALLEY AND FOOTHILL GRASSLAND.	IN SEASONAL ALKALI WETLANDS OR ALKALI SINK SCRUB WITH DISTICHLIS SPICATA, FRANKENIA, ETC. 1-835 M.
Fritillaria pluriflora	adobe-lily	G2G3/S2S3/1B.2	CHAPARRAL, CISMONTANE WOODLAND, FOOTHILL GRASSLAND.	USUALLY ON CLAY SOILS; SOMETIMES SERPENTINE. 60-705 M.
Gratiola heterosepala	Boggs Lake hedge-hyssop	CE/G2/S2/1B.2	MARSHES AND SWAMPS (FRESHWATER), VERNAL POOLS.	CLAY SOILS; USUALLY IN VERNAL POOLS, SOMETIMES ON LAKE MARGINS. 10-2375 M.
Grimmia torenii	Toren's grimmia	S2/1B.3	CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST, CHAPARRAL.	OPENINGS, ROCKY, BOULDER AND ROCK WALLS, CARBONATE, VOLCANIC. 325-1160 M.
Harmonia hallii	Hall's harmonia	1B.2	CHAPARRAL.	SERPENTINE HILLS AND RIDGES. OPEN, ROCKY AREAS WITHIN CHAPARRAL. 500-900 M.
Hesperolinon adenophyllum	glandular western flax	G2G3/S2S3/1B.2	CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	SERPENTINE SOILS; GENERALLY FOUND IN SEPENTINE CHAPARRAL. 150-1315 M.
Hesperolinon bicarpellatum	two-carpellate western flax	G2/S2/1B.2	SERPENTINE CHAPARRAL.	SERPENTINE BARRENS AT EDGE OF CHAPARRAL. 60-1005 M.
Hesperolinon sharsmithiae	Sharsmith's western flax	G2/S2/1B.2	CHAPARRAL.	SERPENTINE SUBSTRATES. 270-300 M.
Horkelia bolanderi	Bolander's horkelia	G1/S1/1B.2	Yellow Pine Forest, Valley Grassland, wetland-riparian. Meadows, edges. Equally likely to occur in wetlands and non wetlands (Calflora 2019)	-
Imperata brevifolia	California satintail	S3/2B1	COASTAL SCRUB, CHAPARRAL, RIPARIAN SCRUB, MOJAVEAN SCRUB, MEADOWS AND SEEPS (ALKALI), RIPARIAN SCRUB.	MESIC SITES, ALKALI SEEPS, RIPARIAN AREAS. 0-1215 M.
Lasthenia burkei	Burke's goldfields	FE/CE/G1/S1/1B.1	VERNAL POOLS, MEADOWS AND SEEPS.	MOST OFTEN IN VERNAL POOLS AND SWALES. 15-600 M.
Layia septentrionalis	Colusa layia	G2/S2/1B.2	CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	SCATTERED COLONIES IN FIELDS AND GRASSY SLOPES IN SANDY OR SERPENTINE SOIL. 145-1095M.
Legenere limosa	legenere	G2/S2/1B.2	VERNAL POOLS.	IN BEDS OF VERNAL POOLS. 1-880 M.

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	S3	CHAPPARAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.	VERNALLY WET AREAS, DITCHES, AND PONDS. 60-1335 M.
Lupinus sericatus	Cobb Mountain lupine	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.
Navarretia leucocephala ssp. bakeri	Baker's navarretia	S2/1B.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.
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	FE/CT/S1/1B.1	VERNAL POOLS.	VOLCANIC ASH FLOW, AND VOLCANIC SUBSTRATE VERNAL POOLS. 400-855 M.
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	FE/CE/S1/1B.2	VERNAL POOLS.	VOLCANIC ASH FLOW VERNAL POOLS. 30-950 M.
Navarretia nigelliformis ssp. radians	shining navarretia	S2/1B.2	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.	APPARENTLY IN GRASSLAND, AND NOT NECESSARILY IN VERNAL POOLS. 200-1000M.
Potamogeton zosteriformis	eel-grass pondweed	S3/2B.2	MARSHES AND SWAMPS.	PONDS, LAKES, STREAMS. 0-1860 M.
Puccinellia simplex	California alkali grass	G3/S2/1B.2	Valley Grassland, wetland-riparian. Occurs usually in wetlands, occasionally in non-wetlands (Calflora 2019)	-
Sedella leiocarpa	Lake County stonecrop	FE/CE/G1/S1/1B.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.
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	S1/1B.2	MEADOWS AND SEEPS, RIPARIAN FOREST.	WET SOIL OF STREAMBANKS, MEADOWS. 1100-2300 M.
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	G2/S2/1B.2	CHAPARRAL, CISMONTANE WOODLAND.	SERPENTINE ROCK OUTCROPS, PRIMARILY IN GEOTHERMAL DEVELOPMENT AREAS. 490-1220 M.
Viburnum ellipticum	oval-leaved viburnum	2B.3	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.	215-1400 M.
ANIMALS				
Antrozous pallidus	pallid bat	S3/SSC	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.

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**
Aquila chrysaetos	golden eagle	S3/FP/BGEPA	ROLLING FOOTHILLS, MOUNTAIN AREAS, SAGE-JUNIPER FLATS, & DESERT.	CLIFF-WALLED CANYONS PROVIDE NESTING HABITAT IN MOST PARTS OF RANGE; ALSO, LARGE TREES IN OPEN AREAS.
Archoplites interruptus	Sacramento perch	G2G3/S1/SSC	HISTORICALLY FOUND IN THE SLOUGHS, SLOW-MOVING RIVERS, AND LAKES OF THE CENTRAL VALLEY.	PREFERS WARM WATER. AQUATIC VEGETATION IS ESSENTAL FOR YOUNG. TOLERATES WIDE RANGE OF PHYSIO-CHEMICAL WATER CONDITIONS.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT/CE.S1	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.
Corynorhinus townsendii	Townsend's big-eared bat	S2/SSC	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.
Dubiraphia brunnescens	brownish dubiraphian riffle beetle	G1/S1	AQUATIC; KNOWN ONLY FROM THE NE SHORE OF CLEAR LAKE, LAKE COUNTY.	INHABITS EXPOSED, WAVE-WASHED WILLOW ROOTS.
Emys marmorata	western pond turtle	G2G4/S3/SSC	A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS & IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION	NEED BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYIN
Erethizon dorsatum	North American porcupine	S3	Dense forests, tundra, grasslands and desert shrub communities (IUCN 2019)	-
Hedychridium milleri	Borax Lake cuckoo wasp	G1/S1	ENDEMIC TO CENTRAL CALIFORNIA. ONLY COLLECTION IS FROM THE TYPE LOCALITY.	EXTERNAL PARASITE OF WASP AND BEE LARVA.
Lavinia exilicauda chi	Clear Lake hitch	CT/S1	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.
Ochthebius recticulus	Wilbur Springs minute moss beetle	G1/S1	AQUATIC; KNOWN ONLY FROM WILBUR HOT SPRINGS AREA, COLUSA COUNTY; 1250 FT ELEV.	INHABITS THE SHORELINE OF THE CREEK AT WILBUR HOT SPRINGS.
Paracoenia calida	Wilbur Springs shore fly	G1/S1	ENDEMIC TO WILBUR HOT SPRINGS, COLUSA COUNTY.	INHABITS ALL BUT THE HOTTEST PORTION OF THE HOT SPRING EFFLUENT; WATER TEMP 20-40 DEG C.

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**
Pyrgulopsis ventricosa	Clear Lake pyrg	G1/S1	Springs and small spring-fed streams, where it is found on vegetation (IUCN 2019)	-
Rana boylii	foothill yellow-legged frog	CC/G3/S3/SSC	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.
Saldula usingeri	Wilbur Springs shorebug	G1/S1	REQUIRES SPRINGS/CREEKS WITH HIGH CONCENTRATIONS OF NA, CL, & LI.	FOUND ONLY ON WET SUBSTRATE OF SPRING OUTFLOWS.
Taricha rivularis	red-bellied newt	S2/SSC	Adults are terrestrial and breeds in streams and rivers. Found in coastal woodland and redwood forest along the coast of northern California (Calherps 2019)	-

*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; SSC = California species of special concern; CR = California rare species; CFP = California fully protected species; 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; and CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere. Global Ranking: G1 = Critically Imperiled; G2 = Imperiled; G3 = Vulnerable. State Ranking: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable.
**Copied verbatim from CNDDB, unless otherwise noted.

A USFWS species list was generated online using the USFWS' IPaC Trust Resource Report System (see Appendix 1) and consists of the following species: northern spotted owl (*Strix occidentalis caurina*), California red-legged frog (*Rana draytonii*), delta smelt (*Hypomesus transpacificus*), Burke's goldfields (*Lasthenia burkei*), few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora)*, and slender Orcutt grass (*Orcuttia tenuis*). The USFWS species list is based on a watershed approach and does not necessarily consider the specific area that the Study Area is located within or habitat suitability. For example, delta smelt is only known to occur in the Sacramento River-San Joaquin River Delta, however, the Study Area is far from tidal influence.

4.3.2. Special-status Species Observed During Field Survey

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

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

Eel-grass pondweed is unlikely to occur based on a lack of suitable habitat. This is a highly aquatic plant that needs to be constantly inundated. Although there are water courses within the Study Area, they are dry for the majority of the year.

Bent-flowered fiddleneck has the potential to occur within the Study Area based on a known adjacent occurrence in CNDDB and the presence of suitable habitat (annual grassland). This species was not observed during the survey; however, the surveys were conducted in September and October, which is outside of the known blooming period (March-June).

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 two water features (mapped as riverine) within the Study Area, an unnamed stream that follows Ogulin Canyon Road, and an east-west tributary.

The following water features were detected within the Study Area during the field survey: three unnamed Class III watercourses and one unnamed Class II watercourse (see Exhibits). All were dry during the survey and predominantly barren of vegetation.

All three Class III watercourses emanate from highway culverts along the western border of the Study Area. The smallest watercourse briefly crosses the southwest corner of the Study Area before entering an adjacent vineyard. The other two channels are approximately 2 feet wide on average and have a cobble or gravel substrate. These enter a Class II watercourse on the eastern border of the Study Area, which is approximately 8 foot wide on average and has a gravel substrate. Portions of the larger watercourse contain aquatic vegetation, such as rushes (*Juncus* sp.).

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.

The Project Area is largely undeveloped but has been previously disturbed by historical grazing operations that have likely introduced the large variety of invasive plants, such as medusahead. Other areas are semi-natural and have many native plants.

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?

One special status plant, bent-flowered fiddleneck was identified as having the potential to occur within the Study Area, and possibly in the Project Area. This species utilizes annual grasslands, and other special-status plant species could occur. Project implementation will require the removal of natural habitats, including annual grassland. This is considered a potentially significant impact under CEQA. However, with implementation of avoidance measures, impacts can be avoided.

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees. However, no nests or nesting activity was observed in the project area during the field survey. Take of an active migratory bird nest would be considered a significant impact under CEQA. Avoidance measures for nesting birds are provided below to reduce the potential impact to less than significant levels.

Recommended Mitigation Measures

Due the presence of suitable habitat for bent-flowered fiddleneck and because the biological survey was performed outside of the appropriate blooming period, it is recommended that a botanical survey be performed by a qualified biologist during the appropriate blooming period (March-June) to determine the presence or absence of the species before any project related ground disturbance occurs. If the plant is not detected during the survey, then no further measures are required. If the plant is detected within the Project Area during the botanical survey, the applicant or its representatives should notify the County, the qualified biologist shall submit a CNDDB record, and the Project Area should be adjusted to avoid impacts to individual plants and a buffer of at least 15 feet in coordination with the qualified biologist, or CDFW should be consulted to develop appropriate 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 one week of the commencement of ground disturbance in a survey area that extends 500 feet from proposed construction areas. If active nests are identified in these areas, a professional qualified biologist experienced with the monitoring and avoidance of bird nesting territories, 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, nest monitoring by a qualified biologist, the postponement of vegetation removal until after the nesting season, postponement until after a qualified biologist has determined that the young have fledged and are independent of the nest site, or a combination thereof.

With the implementation of these mitigation measures, adverse impacts upon special-status/protected species 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 type of special-status habitat: watercourses. There is no evidence that project implementation would impact special-status habitats; the Project Areas were designed to avoid all watercourses and establish adequate buffers. Therefore, no mitigation is required.

Implementation of the project will not interfere substantially with the movement of any native resident or migratory fish, wildlife species, or established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Implementation of the project does not conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. We are not aware of any commercial tree species being removed for this project. If tree felling is performed in the future, a pre-construction nesting bird survey is recommended.

The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan. The Study Area is not within the coverage area of any conservation plan.

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 three Class III watercourses and one Class II watercourse within the Study Area. There are no wetlands within the Study Area. Project implementation would not directly impact any aquatic habitats. However, potential adverse indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance. As the total area of ground disturbance from installation of the cultivation operation is greater than 1 acre, the cultivator may 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 proposed project is compliant with the setback requirements of Cannabis Cultivation Order WQ 2019-0001-DWQ. 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.

It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed within 50 feet of any wetland or channel.

Recommended Mitigation Measures

No impacts to jurisdictional water resources 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 CNDDB) exist within or near the Study Area, the open space and the stream corridors in the Study Area facilitate animal movement and migrations. Additionally, the cattle undercrossing on the western border of the Study Area under Highway 53 is likely used by several species, including deer. Although 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 it and the majority of the Study Area would still be available.

Implementation of the project will not substantially interfere with the movement of any native resident or migratory fish, wildlife species, established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Implementation of the project does not conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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 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.

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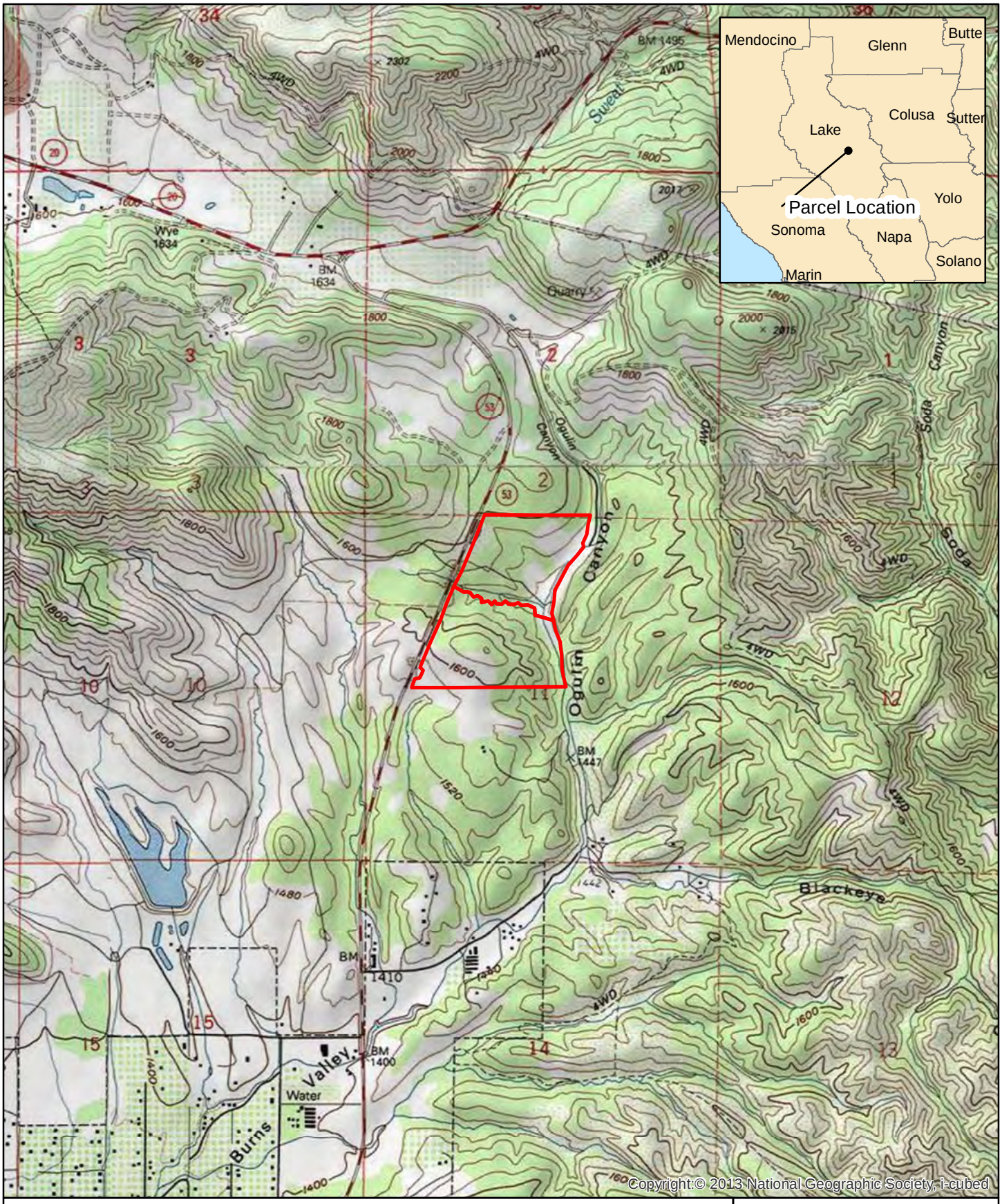
EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

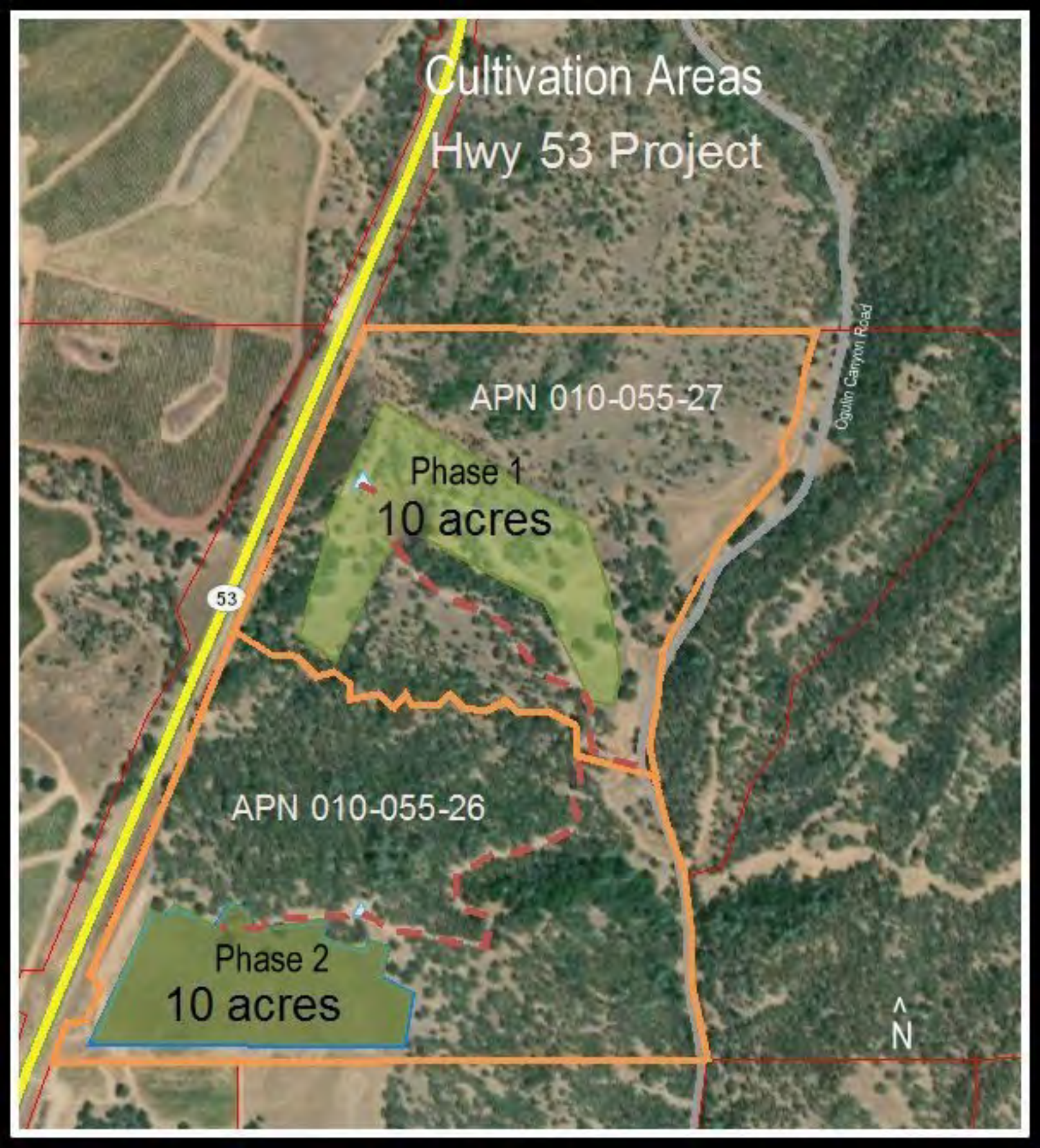
1:24,000

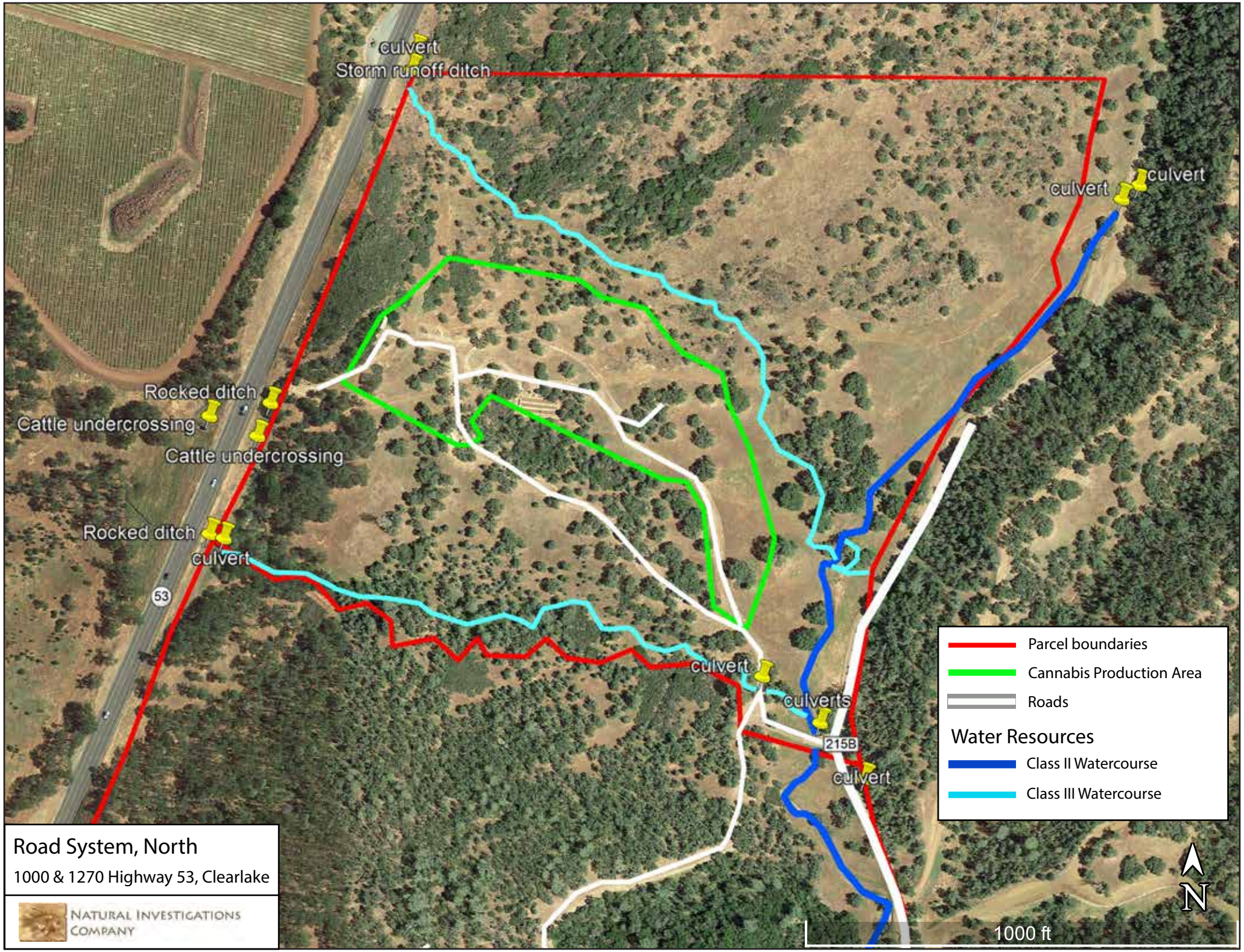
1000 & 1270 Highway 53 Project Location Map

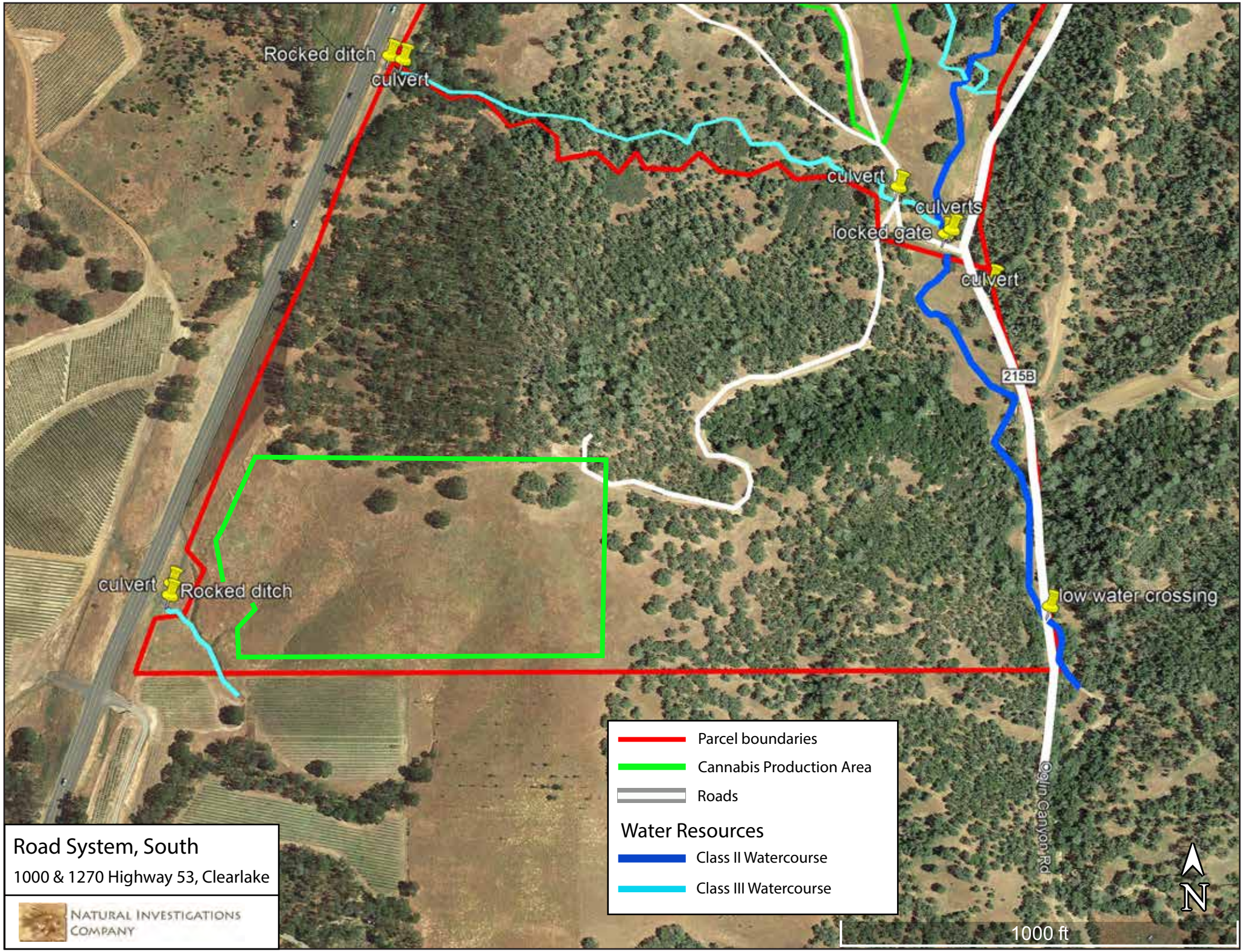
Natural Investigations Company

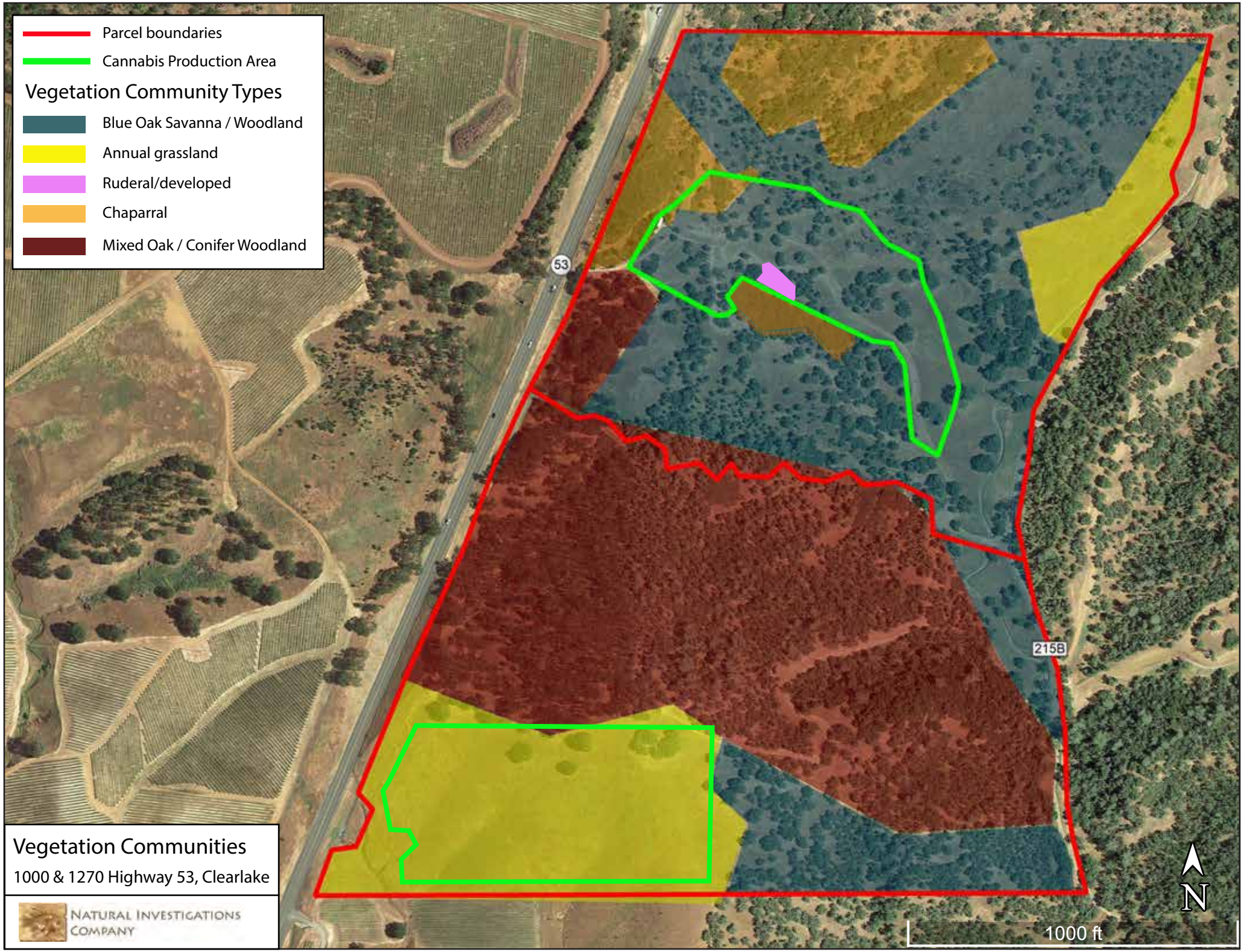
Map Date 9/5/2019

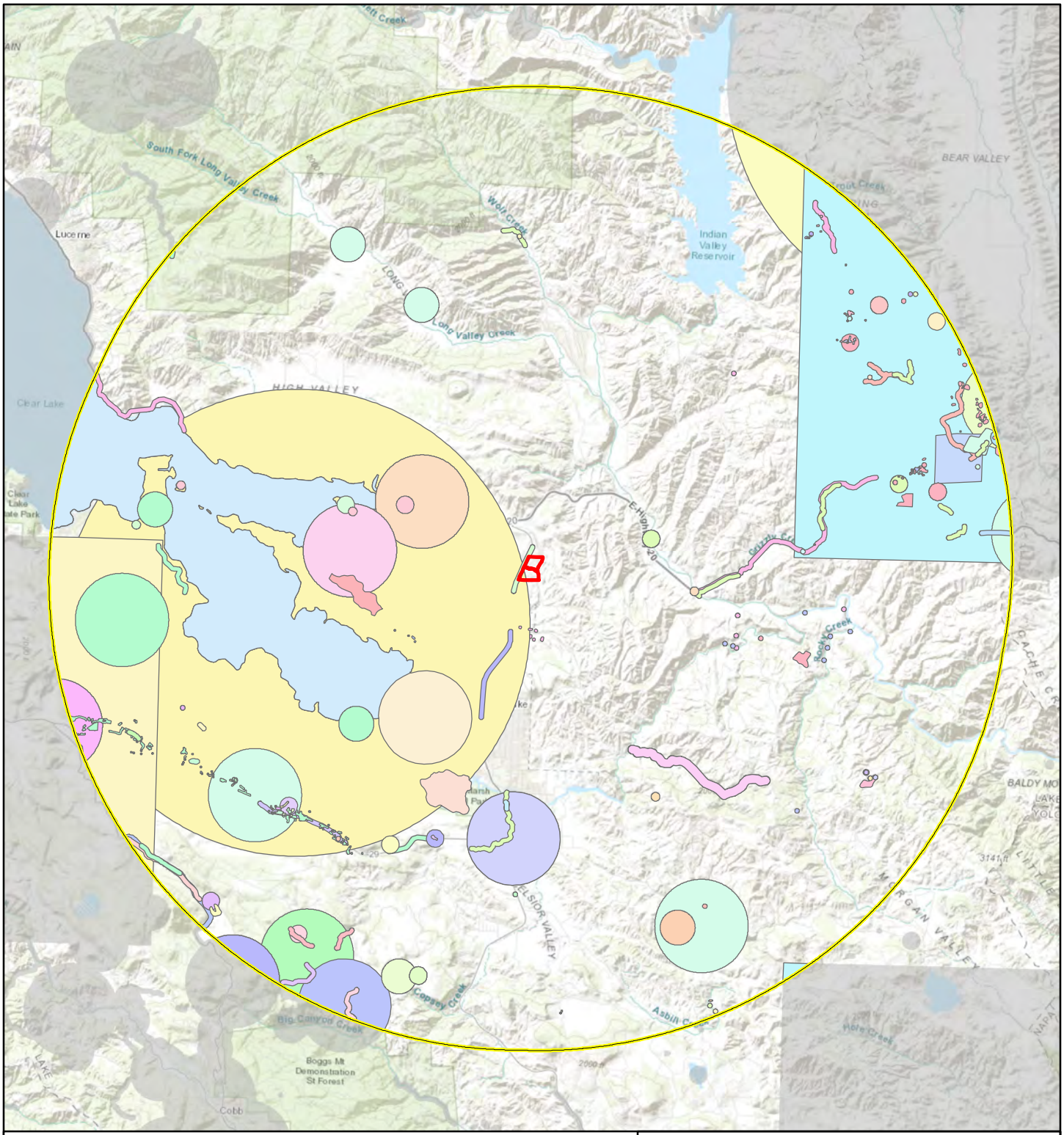
Lower Lake 1993 Quadrangle:Township 13N, Range 7W, Section 11


Cultivation Areas
Hwy 53 Project
APN 010-055-27
Phase 1
10 acres
Ogulin Canyon Road
53
APN 010-055-26
Phase 2
10 acres
N


culvert
Storm runoff ditch
culvert
culvert
Rocked ditch
Cattle undercrossing
Cattle undercrossing
Rocked ditch
culvert
53
culvert
culverts
215B
culvert
Parcel boundaries
Cannabis Production Area
Roads
Water Resources
Class II Watercourse
Class III Watercourse
N
1000 ft
Road System, North
1000 & 1270 Highway 53, Clearlake
Natural Investigations Company


Rocked ditch
culvert
culvert
culverts
locked gate
culvert
215B
culvert
Rocked ditch
low water crossing
Parcel boundaries
Cannabis Production Area
Roads
Water Resources
Class II Watercourse
Class III Watercourse
Obsidian Canyon Rd
N
1000 ft
Road System, South
1000 & 1270 Highway 53, Clearlake
Natural Investigations Company


Parcel boundaries
Cannabis Production Area
Vegetation Community Types
Blue Oak Savanna / Woodland
Annual grassland
Ruderal/developed
Chaparral
Mixed Oak / Conifer Woodland
53
215B
N
1000 ft
Vegetation Communities
1000 & 1270 Highway 53, Clearlake
Natural Investigations Company



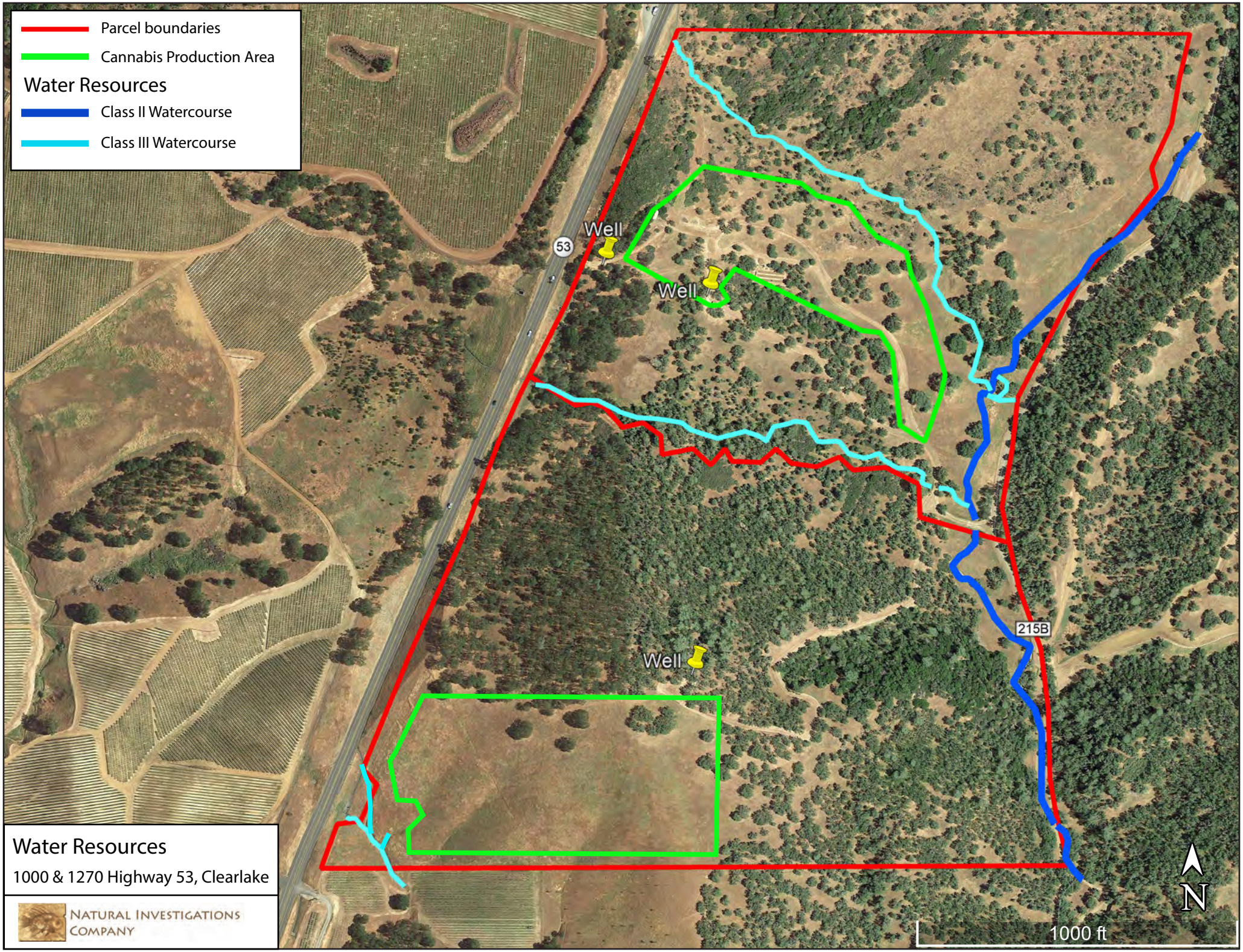
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored 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. 2019. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

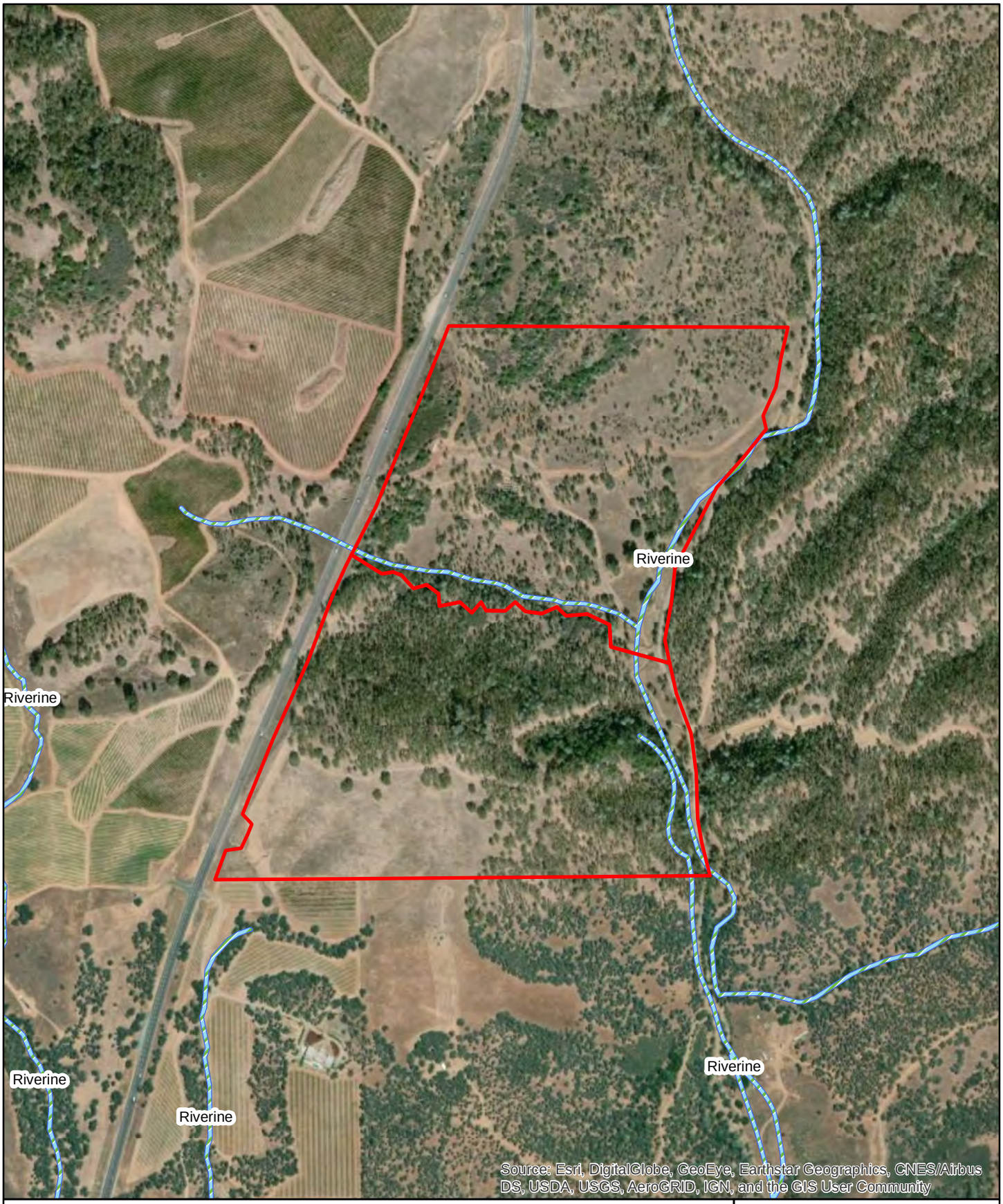
Special-Status Species Occurrences Map

1000 & 1270 Highway 53

Lower Lake 1993 Quadrangle:Township 13N, Range 7W, Section 11

NATURAL INVESTIGATIONS CO.
WWW.NATURALINVESTIGATIONS.COM


Parcel boundaries
Cannabis Production Area
Water Resources
Class II Watercourse
Class III Watercourse
Well
Well
Well
53
215B
N
1000 ft
Water Resources
1000 & 1270 Highway 53, Clearlake
Natural Investigations Company



Parcel Location

Wetlands and Channels

0 150 300 Meters

0 750 1,500 Feet

1:7,500

1000 & 1270 Highway 53
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 9/5/2019

Lower Lake 1993 Quadrangle:Township 13N, Range 7W, Section 11

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:
Consultation Code: 08ESMF00-2019-SLI-2963
Event Code: 08ESMF00-2019-E-09493
Project Name: 1000 & 1270 Highway 53

September 06, 2019

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: 08ESMF00-2019-SLI-2963

Event Code: 08ESMF00-2019-E-09493

Project Name: 1000 & 1270 Highway 53

Project Type: ** OTHER **

Project Description: Bio Assessment

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.99432761944176N122.60531883219149W

Counties: Lake, CA

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.

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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. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* 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

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Few-flowered Navarretia *Navarretia leucocephala ssp. pauciflora (=N. pauciflora)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8242	Endangered
Slender Orcutt Grass *Orcuttia tenuis* 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

Common name	Scientific name
Chamise	*Adenostema fasciculatum*
Goat grass	*Aegilops triuncialis*
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
Indian milkweed	*Asclepias eriocarpa*
Narrow leaf milkweed	*Asclepias fascicularis*
Slender wild oat	*Avena barbata*
Coyote brush	*Baccharis pilularis*
Mustard	*Brassica sp.*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceous*
Mariposa lily	*Calochortus sp.*
Italian thistle	*Carduus pycnocephalus*
Wedgeleaf ceanothus	*Ceanothus cuneatus*
Yellow starthistle	*Centaurea solstitialis*
Spikeweed	*Centromadia fitchii*
Birchleaf mountain mahogany	*Cercocarpus betuloides*
Prostrate spurge	*Chamaesyce maculata*
Clarkia	*Clarkia sp.*
Slender bird's beak	*Cordylanthus tenuis ssp. tenuis*
Dove weed	*Croton setiger*
Bristly dogtail grass	*Cynosurus echinatus*
Nutsedge	*Cyperus sp.*
Fork toothed ookow	*Dichelostemma congestum*
Medusa head grass	*Elymus caput-medusae*
Tall willowherb	*Epilobium brachycarpum*
Yerba santa	*Eriodictyon californicum*
Redstem fillaree	*Erodium cicutarium*
Italian ryegrass	*Festuca perennis*
Nit grass	*Gastridium phleoides*
Seaside heliotrope	*Heliotropum curassavicum*
Telegraph weed	*Heterotheca grandiflora*
Wand tarweed	*Holocarpha virgata*
Klamath weed	*Hypericum perfoliatum*
Rush	*Juncus sp.*
Prickly lettuce	*Lactuca serriola*
Hawkbit	*Leontodon saxatilis*
Lupine	*Lupinus sp.*
Slender tarweed	*Madia gracilis*
Melic grass	*Melica sp.*
Navarettia	*Navarettia sp. (upland)*

Common name	Scientific name
Kellogg's yampah	*Perideridia kelloggii*
Gray pine	*Pinus sabiniana*
Popcorn flower	*Plagiobothrys sp.*
Annual beard grass	*Polypogon monspeliensis*
Blue oak	*Quercus douglasii*
Interior live oak	*Quercus wislizeni*
Hollyleaf redberry	*Rhamnus ilicifolia*
Curly dock	*Rumex crispus*
Red willow	*Salix laevigata*
Yellow monkeyflower	*Erythranthe guttata*
Purple needlegrass	*Stipa pulchra*
Field hedge parsley	*Torilis arvensis*
Poison-oak	*Toxicodendron diversilobum*
Vinegar weed	*Trichostema lanceolata*
Clover	*Trifolium sp.*
Moth mullein	*Verbascum blattaria*
Spring vetch	*Vicia sativa*
Winter vetch	*Vicia villosa*
European grape (adjacent property)	*Vitis vinifera*

APPENDIX 3: SITE PHOTOS


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