BIOLOGICAL RESOURCES ASSESSMENT FOR THE CANNABIS CULTIVATION OPERATION AT 20144 JERUSALEM GRADE, LOWER LAKE, CALIFORNIA

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TABLE OF CONTENTS

1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted a biological resources assessment for a cannabis cultivation operation on a 31.5-acre parcel (APN: 136-031-630-000) located at 20144 Jerusalem Grade, Lower Lake, in Lake County, California. The property is accessed by a private graveled road off on Jerusalem Grade (see exhibits). Cannabis cultivation will occur within a 3.5-acre cultivation area near the center of the property. The permitted cannabis canopy is 1 acre. Pants will be grown in full sun in amended native soil; for each planting station a hole, approximately 1 cubic yard in volume, will be excavated and backfilled with planting mix. One hoophouse or greenhouse may be constructed for use as a nursery. Several new structures will be installed inside the cultivation area: one drying shed, one curing shed and one storage shed. Additional processing will take place off site. Portable toilets will be rented and placed within the cultivation area. The well is located west of the house. Water from the well will be pumped into tanks (3 or 4 tanks, each with a capacity of 5000 gallons). The tanks will be along the west side of the garden. One or two 250-gallon mixing tanks will be used to deliver liquid nutrients such as compost tea. Drip irrigation will be used to deliver water to each of the planting stations.

The project involved minor vegetation clearing for the establishment of cultivation areas (see exhibits). The cultivation area has been established within a site previously used for horse pasture and other equestrian purposes. Tree removal within the Study Area has recently been conducted by PG&E for transmission line maintenance. For this assessment, the Project Area was defined as the cultivation area (3.5-acres), including all ancillary facilities, and this area was the subject of the impact analysis. The entire 31.5-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 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 Range 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 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 is that of a north-south trending ridge with gentle slopes. The elevation ranges from approximately ,1820 feet to 2,005 feet above mean sea level. Drainage runs east and northeast off the parcel, eventually flowing into Soda Creek, thence Putah Creek and Lake Berryessa.

Prior to the establishment of this cultivation operation, land uses were open space and equestrian facilities. The surrounding land uses are private estates with orchards, vineyards, cannabis gardens or corrals, open space, and grazing land.

The Natural Resources Conservation Service (NRCS) has identified several soil types within the Study Area. The geology that underlays the site consists of soils derived from volcanic parent material including basalt, andesite and volcanic ash. No soils derived from serpentine substrates 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 (CNDDB), 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 March 5, 2020. Weather conditions were cool and clear 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 CNDDB 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). 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: western fence lizard (*Sceloporus occidentalis*); black-tailed jackrabbit (*Lepus californicus*); Botta's pocket gopher (*Thomomys bottae*); broad-footed mole (*Scapanus latimanus*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); dog (*Canis lupis familiaris*); western gray squirrel (*Sciurus griseus*); American crow (*Corvus brachyrhynchos*); Anna's hummingbird (*Calypte anna*); black phoebe (*Sayornis nigricans*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); California thrasher (*Toxostoma redivivum*); common raven (*Corvus corax*); Eurasian collared-dove (*Streptopelia decaocto*); oak titmouse (*Baeolophus inornatus*); sparrow (Emberizidae); spotted towhee (*Pipilo maculatus*); turkey vulture (*Cathartes aura*) 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; Chaparral (Mixed Chaparral); Pine-Oak Forest; and Gray Pine Woodland. These vegetation communities are discussed here and are delineated in the Exhibits.

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 weedy or invasive species or ornamental plants lacking a consistent community structure. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Mixed Chaparral: Although chaparral species are common throughout the Study Area, chaparral habitat is found only near the center of the northern portion of the parcel. Typical species within the chaparral include common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), bush interior live oak (*Quercus wislizeni* var. *frutescens*), chamise (*Adenostoma fasciculatum*), gray pine (*Pinus sabiniana*) and toyon (*Heteromeles arbutifolia*) with Sonoma sage (*Salvia sonomensis*) common in the understory. Few grasses and herbs were observed in the understory of the dense shrub canopy. This vegetation type can be classified as the Holland Type "Northern Mixed Chaparral" or as "37.323.01 *Arctostaphylos manzanita* (CDFW 2019)".

Pine-Oak Forest: The northern portion of the Study Area is dominated by a forest of ponderosa pine (*Pinus ponderosa*) and California black oak (*Quercus kelloggii*). Other important species within this habitat include gray pine, common manzanita, toyon, hollyleaf redberry (*Rhamnus ilicifolia*) and poison-oak (*Toxicodendron diversilobum*). This vegetation type can be classified as the Holland Type "Upland Coast Range Ponderosa Pine Forest" or as "87.010.00 *Pinus ponderosa* forest (CDFW 2019)".

Gray Pine Woodland. Most of the southern portion of the Study Area is vegetated with an open canopy of gray pine with an understory of common manzanita, bush interior live oak, toyon, and poison-oak. The shrub understory is very dense, allowing little sunlight to the floor of the woodland. As such, few herbs and grasses were noted within this habitat. This vegetation can be

classified as the Holland Type "Non-Serpentine Gray Pine Chaparral" or as "87.130.11 *Pinus sabiniana – Quercus wislizeni/Adenostoma fasciculatum* (CDFW 2019)".

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: Montane Hardwood-Conifer; Mixed Chaparral; Blue Oak – Foothill Pine; Pasture; and Urban.

4.2.3. Critical Habitat and Special-status Habitat

The following critical habitat occurs within the Study Area: slender Orcutt grass (*Orcuttia tenuis*). This is a general mapping of the Steinhardt Lakes habitat area. However, no vernal pools or seasonal wetlands are present within the Study Area. Therefore, suitable habitat for slender Orcutt grass is not present within the Study Area.

No special-status habitats were detected within the Study Area during the field survey. The CNDDB reported no special-status habitats within the Study Area. The CNDDB reported the following special-status habitats in a 10-mile radius outside of the Study Area: Central Valley Drainage Rainbow Trout/Cyprinid Stream; Clear Lake Drainage Resident Trout Stream; Serpentine Bunchgrass; Northern Vernal Pool; Northern Basalt Flow Vernal Pool; Coastal and Valley Freshwater Marsh and Northern Interior Cypress Forest.

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 there are no designated wildlife corridors, the open space within the Study Area provides unrestricted animal movement. Stream corridors function as wildlife corridors. 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 CNDDB.

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 no special-status species occurrences within the Project Area. Within a 10-mile buffer of the Study Area boundary, the CNDDB reported several 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
- Amphibians
  - California Red-legged Frog (*Rana draytonii*) Threatened
- Fishes
  - Delta Smelt (*Hypomesus transpacificus*) Threatened
- Crustaceans
  - Conservancy Fairy Shrimp (*Branchinecta conservatio*) Endangered
- Flowering Plants
  - Burke's Goldfields (*Lasthenia burkei*) Endangered
  - Lake County Stonecrop (*Parvisedum leiocarpum)* Endangered
  - Many-flowered Navarretia (*Navarretia leucocephala ssp. plieantha)* Endangered
  - Slender Orcutt Grass (*Orcuttia tenuis*) Threatened

Migratory birds should also be considered in the impact assessment.

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

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Red-bellied newt *Taricha rivularis*	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 *Dicamptodon ensatus*	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 *Rana boylii*	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.
Bald eagle *Haliaeetus leucocephalus*	FD/CE/FP	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water.	Nests in large, old-growth, or dominant live tree w/open branches, especially ponderosa pine. Roosts communally in winte
Golden eagle *Aquila chrysaetos*	CFP/CWL	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.
American peregrine falcon *Falco peregrinus anatum*	FD/CDFP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Nest consists of a scrape or a depression or ledge in an open site.
Prairie falcon *Falco mexicanus*	CWL	Inhabits dry, open terrain, either level or hilly.	Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	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 *Progne subis*	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.
Tricolored blackbird *Agelaius tricolor*	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.
Clear Lake hitch *Lavinia exilicauda chi*	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 *Archoplites interruptus*	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 *Myotis evotis*	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 *Myotis thysanodes*	CSSC	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer.	Uses caves, mines, buildings or crevices for maternity colonies and roosts.
Silver-haired bat *Lasionycteris noctivagans*	CSSC	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas.	Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.
Hoary bat *Lasiurus cinereus*	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 *Lasiurus blossevillii*	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 *Corynorhinus townsendii*	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 *Antrozous pallidus*	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.

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Western pond turtle *Emys marmorata*	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
Brownish dubiraphian riffle beetle *Dubiraphia brunnescens*	CSSC	Aquatic; known only from the NE shore of Clear Lake, Lake County.	Inhabits exposed, wave-washed willow roots.
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	CSSC	Aquatic.	
Serpentine cypress long-horned beetle *Vandykea tuberculata*	CSSC	Breeds in shaded-out lower branches of Sargent cypress and perhaps McNab cypress in serpentine soil/cypress habitats.	
Wilbur Springs shorebug *Saldula usingeri*	CSSC	Requires springs/creeks with high concentrations of Na, Cl, & Li.	Found only on wet substrate of spring outflows.
Clear Lake pyrg *Pyrgulopsis ventricosa*	CSSC	Restricted to Seigler Creek drainage in the south end of the Clear Lake Basin.	Freshwater.
Toren's grimmia *Grimmia torenii*	1B.3	Cismontane woodland, lower montane coniferous forest, chaparral.	Openings, rocky, boulder and rock walls, carbonate, volcanic. 325-1160 m.
Elongate copper moss *Mielichhoferia elongata*	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 *Eryngium constancei*	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B.2	Chaparral, valley and foothill grassland, cismontane woodland.	Sometimes on serpentine. 90-1555 m.
Greene's narrow-leaved daisy *Erigeron greenei*	1B.2	Chaparral.	Serpentine and volcanic substrates, generally in shrubby vegetation. 80-1005 m.
Congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	1B.2	Valley and foothill grassland.	Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 20-560 m.
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia *Layia septentrionalis*	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 *Harmonia hallii*	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Serpentine cryptantha *Cryptantha dissita*	1B.2	Chaparral.	Serpentine outcrops. 330-730m.
Freed's jewelflower *Streptanthus brachiatus ssp. hoffmanii*	1B.2	Chaparral, cismontane woodland.	Serpentine rock outcrops, primarily in geothermal development areas. 490-1220 m.
Three Peaks jewelflower *Streptanthus morrisonii ssp. elatus*	1B.2	Chaparral.	Serpentine barrens, outcrops, and talus; 80-815 m.
Kruckeberg's jewelflower *Streptanthus morrisonii ssp. kruckebergii*	1B.2	Cismontane woodland.	Scattered serpentine outcrops near the Lake/Napa County line. 215-1035 m.
Early jewelflower *Streptanthus vernalis*	1B.2	Chaparral, closed-cone coniferous forest.	On serpentine. 610m.
Green jewelflower *Streptanthus hesperidis*	1B.2	Chaparral, cismontane woodland.	Openings in chaparral or woodland; serpentine, rocky sites. 130-760m.
Cascade downingia *Downingia willamettensis*	2B.2	Cismontane woodland, valley and foothill grasslands.	Lake margins and vernal pools.
Legenere *Legenere limosa*	1B.1	Vernal pools.	In beds of vernal pools. 1-880 m.

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland.	On serpentine barrens, slopes, and hillsides. 280-1010 m.
Oval-leaved viburnum *Viburnum ellipticum*	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop *Sedella leiocarpa*	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 *Arctostaphylos stanfordiana ssp. raichei*	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Napa false indigo *Amorpha californica var. napensis*	1B.2	Broadleafed upland forest, chaparral, cismontane woodland.	Openings in forest or woodland or in chaparral. 120-2000 m
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Cobb Mountain lupine *Lupinus sericatus*	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.
Saline clover *Trifolium hydrophilum*	1B.2	Marshes and swamps, valley and foothill grassland, vernal pools.	Mesic, alkaline sites. 0-300 m.
Northern California black walnut *Juglans hindsii*	CBR	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized.	Deep alluvial soil associated with a creek or stream. 0-440 m.
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.
Lake County western flax *Hesperolinon didymocarpum*	CE/1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soil in open grassland and near chaparral. 330-365m.
Drymaria-like western flax *Hesperolinon drymarioides*	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils, mostly within chaparral. 390-1000m.
Sharsmith's western flax *Hesperolinon sharsmithiae*	1B.2	Chaparral.	Serpentine substrates. 270-300 m.
Keck's checkerbloom *Sidalcea keckii*	FE/1B.1	Cismontane woodland, valley and foothill grassland	Grassy slopes in blue oak woodland. 75-650 m.
Marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.
Snow Mountain buckwheat *Eriogonum nervulosum*	1B.2	Chaparral.	Dry serpentine outcrops, balds, and barrens. 300-2100 m.
Jepson's leptosiphon *Leptosiphon jepsonii*	1B.2	Chaparral, cismontane woodland.	Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 100-500m.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	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 *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE/CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Small pincushion navarretia *Navarretia myersii ssp. deminuta*	1B.1	Vernal pools.	Known from only one site in Lake County in vernal pool habitat on clay-loam soil; also in roadside depressions. 355 m.

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Marin County navarretia *Navarretia rosulata*	1B.2	Closed-cone coniferous forest, chaparral.	Dry, open rocky places; can occur on serpentine. 200-635m.
Porter's navarretia *Navarretia paradoxinota*	1B.3	Meadows and seeps.	Serpentenite, openings, vernally mesic, often drainages.
Rincon Ridge ceanothus *Ceanothus confusus*	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065 m.
Sonoma ceanothus *Ceanothus sonomensis*	1B.2	Chaparral.	Sandy, serpentine or volcanic soils. 210-800 m.
Bolander's horkelia *Horkelia bolanderi*	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Pink creamsacs *Castilleja rubicundula var. rubicundula*	1B.2	Chaparral, meadows and seeps, valley and foothill grassland.	Openings in chaparral or grasslands. On serpentine. 20-900 m.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Dimorphic snapdragon *Antirrhinum subcordatum*	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 *Carex praticola*	2B.2	Meadows and seeps.	Moist to wet meadows. 0-3200 m.
Dwarf soaproot *Chlorogalum pomeridianum var. minus*	1B.2	Chaparral, valley and foothill grassland.	Serpentine. 240-970 m.
Adobe-lily *Fritillaria pluriflora*	1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 60-705 m.
California satintail *Imperata brevifolia*	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 *Orcuttia tenuis*	FT/CE/1B.1	Vernal pools.	Often in gravelly pools. 35-1760 m.
Eel-grass pondweed *Potamogeton zosteriformis*	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 Project Area or the surrounding Study Area.

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

The volcanic soils that underlay the chaparral, forest and woodland habitats have a moderate potential for harboring several special status plants species including Greene's narrow-leaved daisy (*Erigeron greenei*), Jepson's leptosiphon (*Leptosiphon jepsonii*), Konocti manzanita (*Arctostaphylos manzanita ssp. elegans*), Rincon Ridge ceanothus (*Ceanothus confusus*) and Sonoma ceanothus (*Ceanothus sonomensis*). The trees within the Study Area have a moderate potential for harboring special status bat species including long-eared myotis (*Myotis evotis*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*) and western red bat (*Lasiurus blossevillii*). There are no non-wetland water resources, such as watercourses, within the Study Area that can sustain aquatic special-status species. Slender Orcutt grass (*Orcuttia tenuis*) is mapped nearby in the Steinhardt Lakes habitat area. However, no vernal pools or seasonal wetlands are present within the Study Area. Therefore, suitable habitat for slender Orcutt grass is not present within the Study Area.

4.4. POTENTIALLY-JURISDICTIONAL WATER RESOURCES

The USFWS National Wetland Inventory reported no water features within the Study Area (see Exhibits).

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 field survey determined that the Project Area does not contain any channels or wetlands (see Exhibits). There are no channels, wetlands, 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 installation of the cultivation areas appears to have occurred on areas that were previously cleared or maintained as pasture. No impacts to natural habitats were identified from installation of the cultivation areas. Trees that were recently cleared have been removed by PG&E as part of ongoing transmission line maintenance operations. No significant accumulations of sediment in receiving waterbodies were noted.

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 Project Area of Study Area. The volcanic soils that underlay the chaparral, forest and woodland habitats have a moderate potential for harboring several special status plants species. The trees within the Study Area have a moderate potential for harboring special status bat species. There are no non-wetland water resources, such as watercourses, within the Study Area that can sustain aquatic special-status species. No impacts to special-status species were identified 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 will result in the removal of undisturbed chaparral, woodland or forest vegetation, a pre-construction survey for special-status species should be performed by a qualified biologist to ensure that special-status species are not present. If any listed species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed.

With the implementation of this mitigation measure, adverse impacts upon special-status 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 within the designated critical habitat for slender Orcutt grass (*Orcuttia tenuis*). This species is endemic to vernal pools. However, no vernal pools or other seasonal wetlands are present within the Study Area. Therefore, suitable habitat for slender Orcutt grass is not present within the Study Area.

The Study Area is not inside any federally-designated critical habitat. The Project Area contains no special-status habitats, but special-status habitats are directly adjacent to some project areas. If the establishment of cultivation operations requires the destruction of sensitive habitats, such as undisturbed chaparral, pine-oak forest or gray pine woodland habitat, this is a potentially-significant impact.

Recommended Mitigation Measures

If the establishment of cultivation operations requires the destruction of undisturbed chaparral, pine-oak forest or gray pine woodland habitat, the following mitigation measure should be implemented:

- Performance of a botanical survey to identify if any special-status plant species are present and to delineate sensitive and non-sensitive plant habitat at a finer scale, which may reduce the overall area needed for protection.

With the implementation of this mitigation measure, impacts to special-status habitats would be reduced to a less than significant level.

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 no aquatic resources within the Study Area. Furthermore, the Project Area has been designed with 150-foot setbacks from all wetlands and watercourses outside of the Study Area. Because of these avoidance measures, no impacts to water resources are expected.

If the total area of ground disturbance from installation of the cultivation operation is 1 acre or more, the Cultivator must enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). Implementation of a

stormwater pollution prevention plan, and erosion control plan, along with regular inspections, will ensure that construction activities do not pollute receiving waterbodies.

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.

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 CNDDB) exist within or near the Study Area, the open space within the Study Area facilitates 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 open space in 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?*

Construction of the project will not require the removal of trees protected by Lake County and CalFire.

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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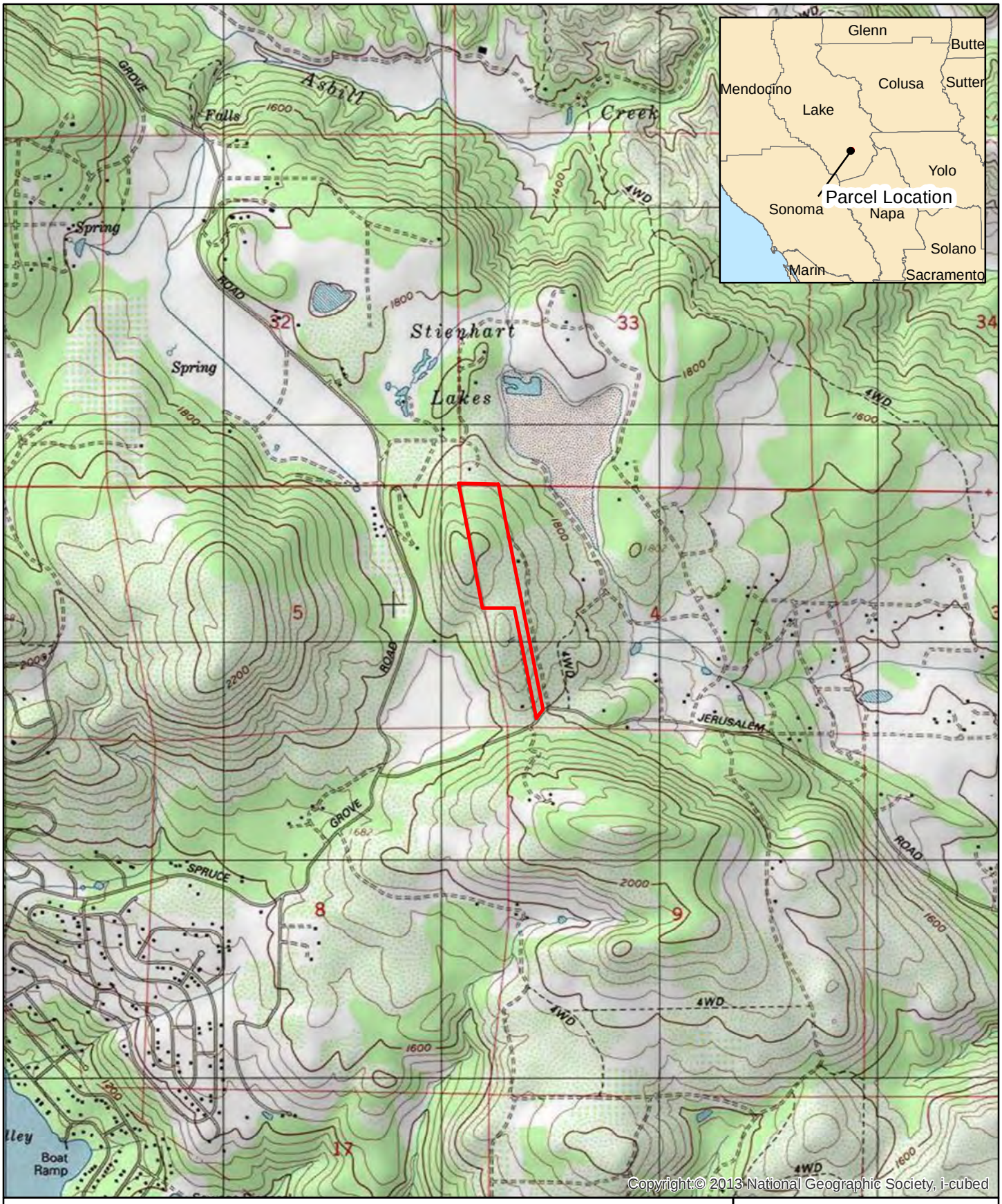
EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

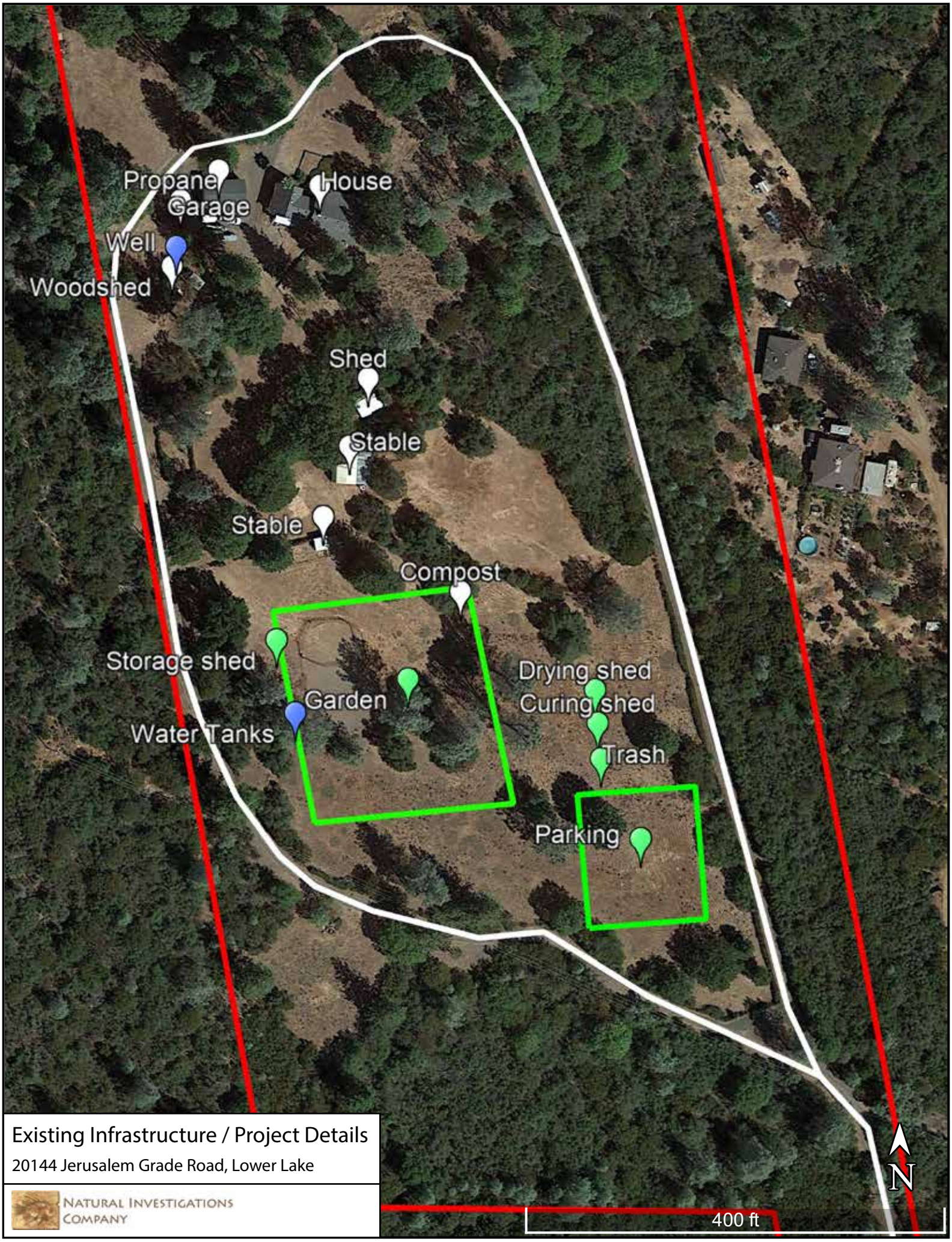
1:24,000

20144 Jerusalem Grade Rd
Parcel Location Map

Natural Investigations Company

Map Date 3/1/2020

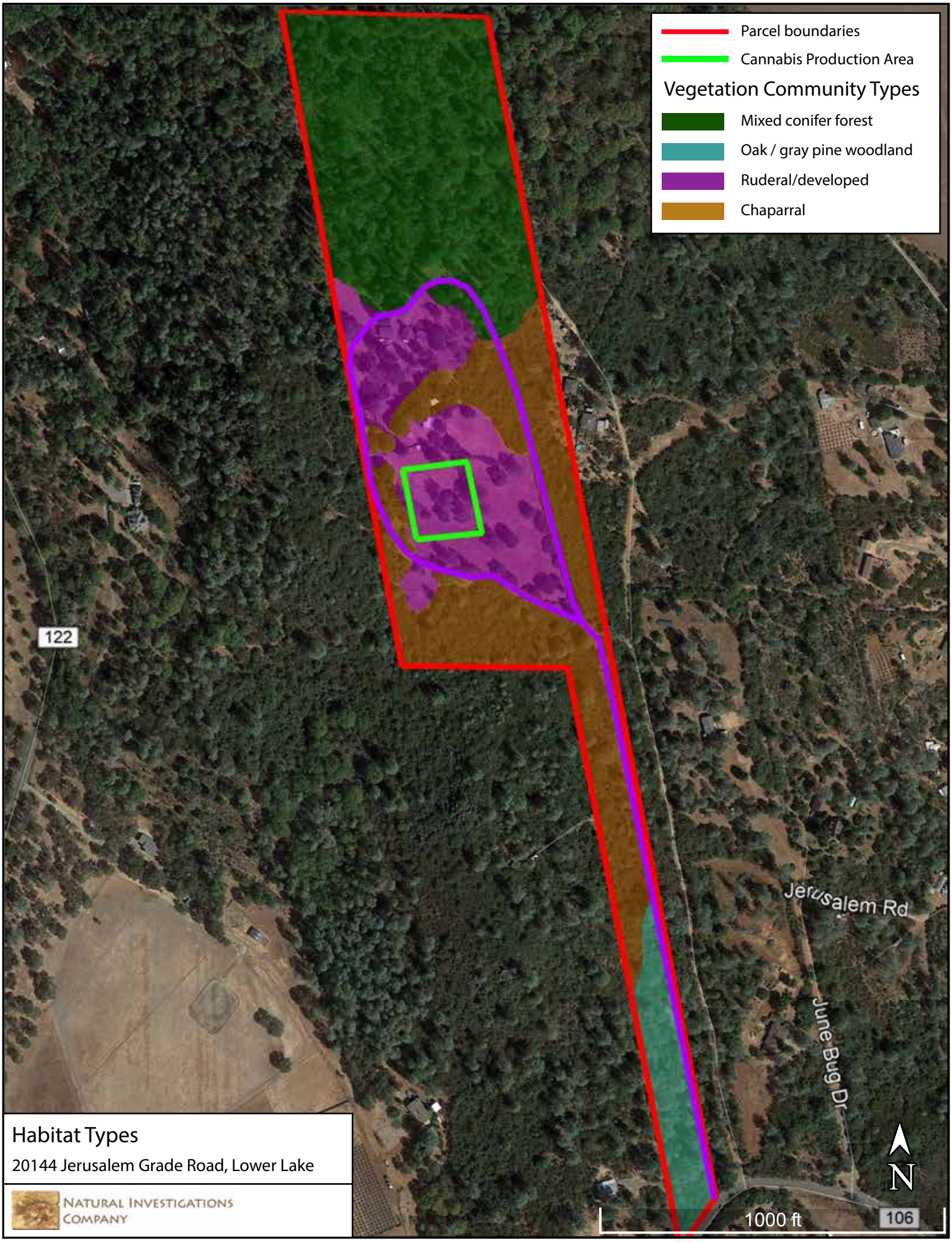
Middletown 1998 Quadrangle:Township 11N, Range 6W, Section 4



Existing Infrastructure / Project Details

20144 Jerusalem Grade Road, Lower Lake

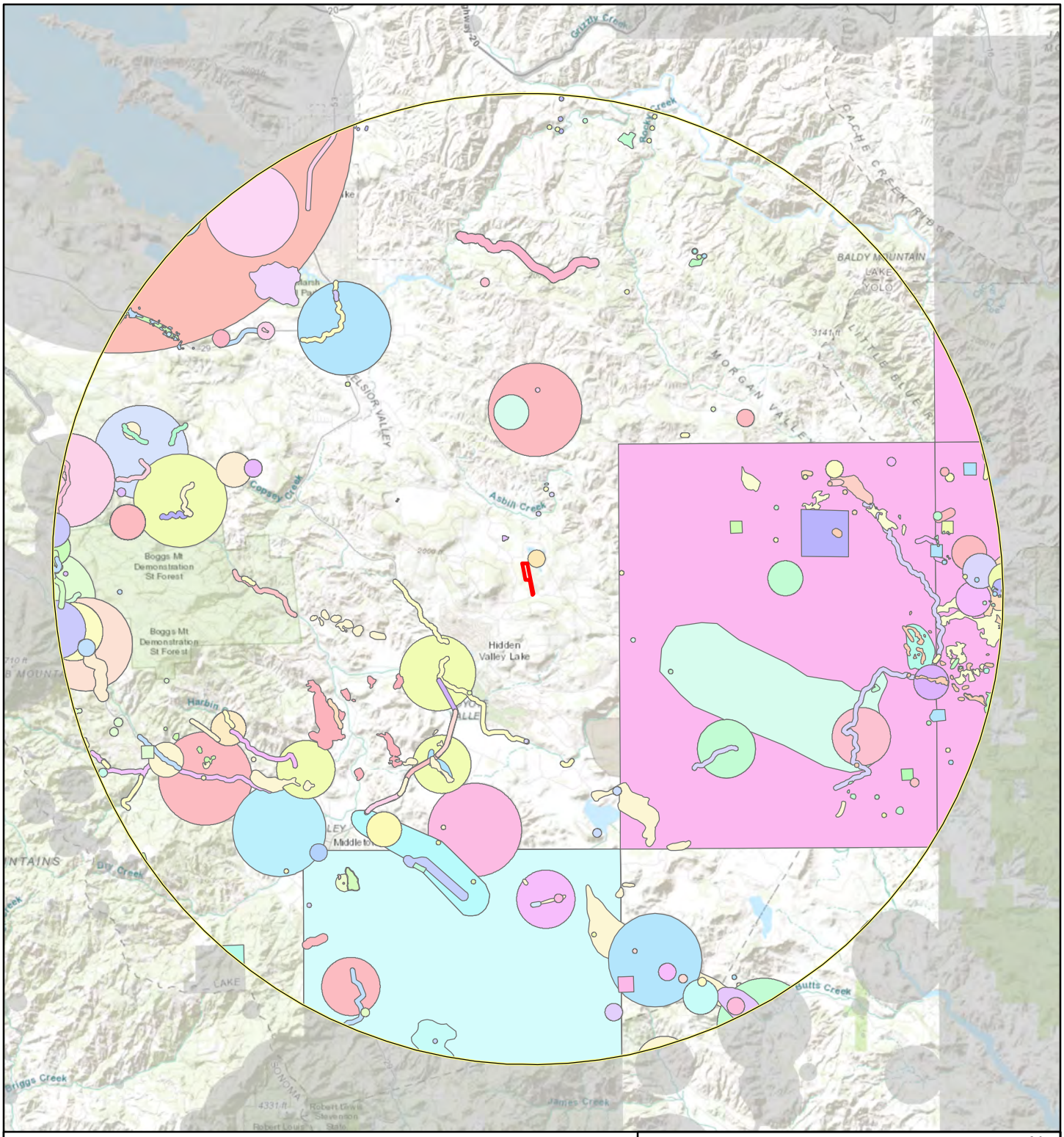
Natural Investigations Company



Habitat Types

20144 Jerusalem Grade Road, Lower Lake

Natural Investigations Company



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

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. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

Special-Status Species Occurrences Map

20144 Jerusalem Grade Rd

Middletown 1998 Quadrangle:Township 11N, Range 6W, Section 4

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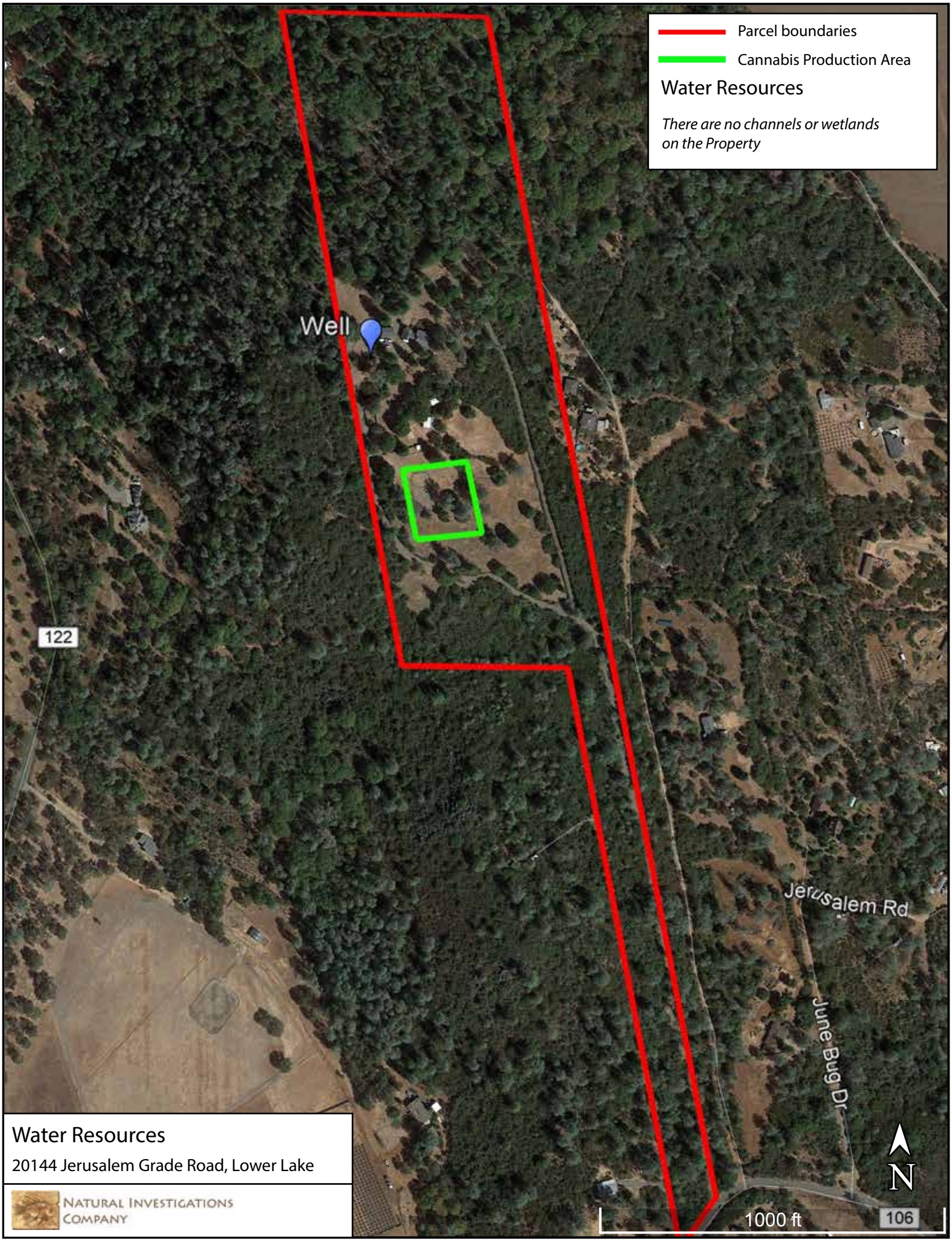
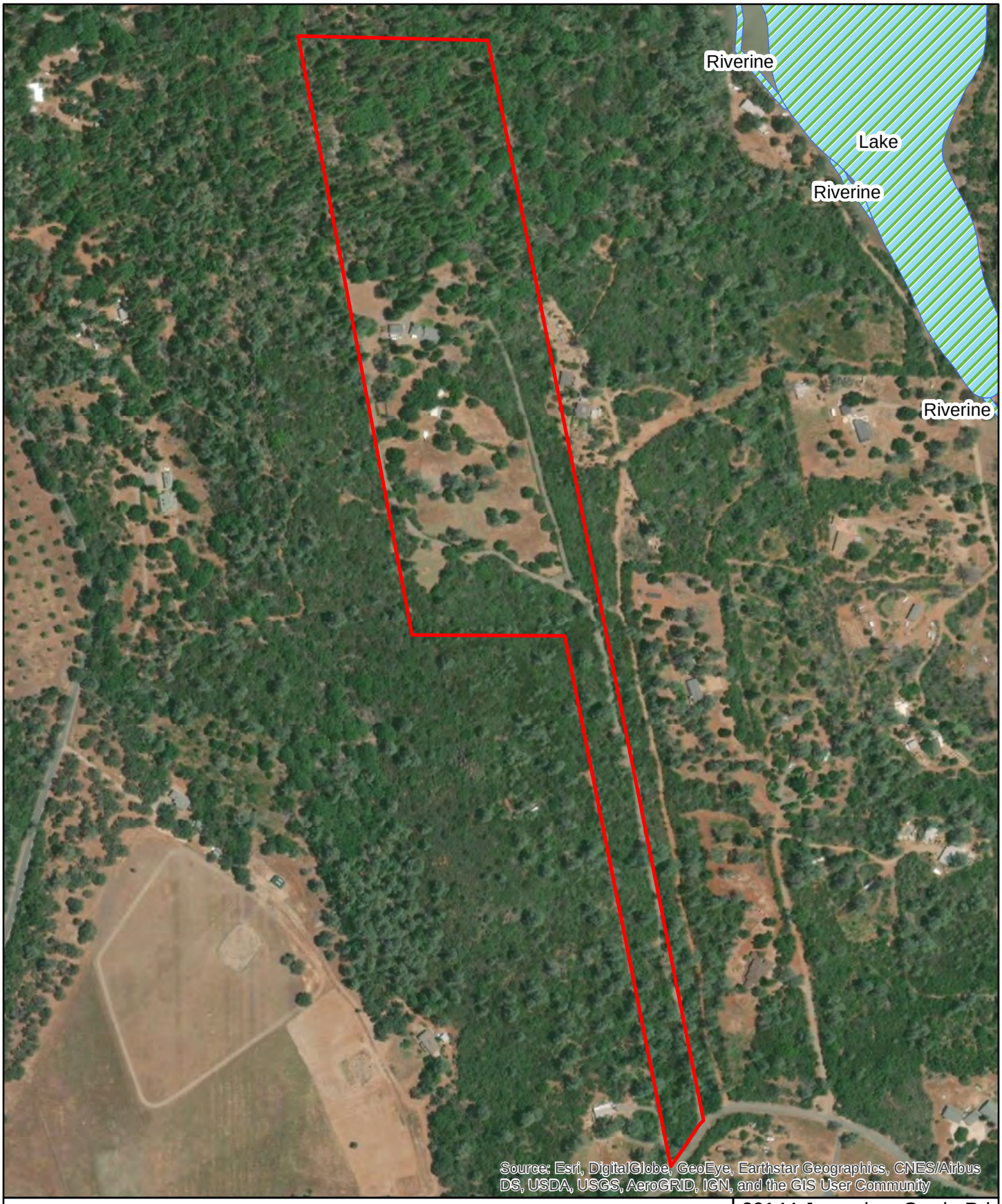
www.NaturalInvestigations.com



Water Resources

20144 Jerusalem Grade Road, Lower Lake

Natural Investigations Company



Parcel Location

Wetlands and Channels

0 125 250 Meters

0 500 1,000 Feet

1:5,000

20144 Jerusalem Grade Rd
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 3/1/2020

Middletown 1998 Quadrangle:Township 11N, Range 6W, Section 4

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: March 01, 2020
Consultation Code: 08ESMF00-2020-SLI-1199
Event Code: 08ESMF00-2020-E-03854
Project Name: 20144 Jerusalem Grade Rd

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-1199

Event Code: 08ESMF00-2020-E-03854

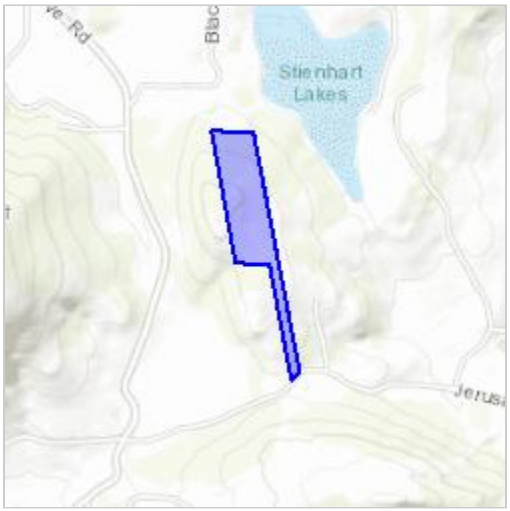
Project Name: 20144 Jerusalem Grade Rd

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/38.833377178089115N122.5370712565547W



Counties: Lake, CA

Endangered Species Act Species

There is a total of 8 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*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/1123

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

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

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* 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 *Lasthenia burkei* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Lake County Stonecrop *Parvisedum leiocarpum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2263	Endangered
Many-flowered Navarretia *Navarretia leucocephala ssp. plieantha* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2491	Endangered
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Slender Orcutt Grass *Orcuttia tenuis* https://ecos.fws.gov/ecp/species/1063#crithab	Final

APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Appendix 2:

Plants Observed at 20144 Jerusalem Grade, Lower Lake on March 5, 2020

Common Name	Scientific Name
Deer weed	*Acmispon glaber*
Lotus	*Acmispon sp.*
Chamise	*Adenostoma fasciculatum*
Spearleaf mountain dandelion	*Agoseris retrorsa*
Silver hairgrass	*Aira caryophyllea*
Western pearly everlasting	*Anaphalis margaritacea*
Silvery everlasting	*Antennaria argentea*
Bur-chervil	*Anthriscus caucalis*
Gray pine dwarf mistletoe	*Arceuthobium occidentale*
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
White leaf manzanita	*Arctostaphylos viscida ssp. viscida*
Slender wild oat	*Avena barbata*
Coyote brush	*Baccharis pilularis*
Brodiaea	*Brodiaea sp.*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceus*
Foxtail chess	*Bromus madritensis*
Incense cedar	*Calocedrus decurrens*
Western morning glory	*Calystegia occidentalis*
Deer brush	*Ceanothus integerrimus var. macrothyrsus*
Parry ceanothus	*Ceanothus parryi*
Maltese star thistle	*Centaurea melitensis*
Western redbud	*Cercis occidentalis*
Clarkia	*Clarkia sp.*
Miner's lettuce	*Claytonia perfoliata*
Pacific hound's tongue	*Cynoglossum grande*
Hedgehog dogtail grass	*Cynosurus echinoides*
Bush monkeyflower	*Diplacus aurantiacus*
Blue wildrye	*Elymus glaucus*
Yerba santa	*Eriodictyon californicum*
Filaree	*Erodium botrys*
Fillaree	*Erodium cicutarium*
California coffeeberry	*Frangula californica*
Fritillaria	*Fritillaria sp.*
Cleavers	*Galium aparine*
California bedstraw	*Galium californicum ssp. californicum*
Bedstraw	*Galium spp.*
Nit grass	*Gastridium phleoides*
Dove's foot geranium	*Geranium molle*
Toyon	*Heteromeles arbutifolia*
Hare wall barley	*Hordeum murinum*
Klamath weed	*Hypericum perforatum*
Iris	*Iris sp.*
Wild pea	*Lathyrus sp.*
Pink honeysuckle	*Lonicera hispidula*
Horehound	*Marrubium vulgare*
Green monardella	*Monardella viridis*
Navarretia	*Navarretia sp.*
Beard tongue	*Penstemon sp.*

American mistletoe	*Phoradendron leucarpum*
Knobcone pine	*Pinus attenuata*
Ponderosa pine	*Pinus ponderosa*
Gray pine	*Pinus sabiniana*
English plantain	*Plantago lanceolata*
California milkwort	*Polygala californica*
California scrub oak	*Quercus berberidifolia*
Canyon live oak	*Quercus chrysolepis*
California black oak	*Quercus kelloggii*
Interior live oak	*Quercus wislizeni*
Oracle oak	*Quercus x. morehus*
Lemonade berry	*Rhus trilobata*
Wood rose	*Rosa gymnocarpa*
Himalayan blackberry	*Rubus armeniacus*
Sonoma sage	*Salvia sonomensis*
Blue elderberry	*Sambucus nigra ssp. caerulea*
Pacific sanicle	*Sanicula crassicaulis*
Hedge nettle	*Stachys sp.*
Chickweed	*Stellaria media*
Tall sock-destroyer	*Torilis arvensis*
Poison-oak	*Toxicodendron diversilobum*
Smallflower death camas	*Toxicoscordion micranthum*
White clover	*Trifolium repens*
Clover	*Trifolium sp.*
California bay	*Umbellularia californica*
Spring vetch	*Vicia sativa*

APPENDIX 3: SITE PHOTOS
















































Ghost Dance
Ranch