

**BOTANICAL SURVEY REPORT
FOR THE
PROPERTY AT
7255 BOGGS LANE, KELSEYVILLE, CALIFORNIA**

June 19, 2024

Prepared by:

Graening and Associates, LLC
343 Carpenter Hill Road, Folsom CA 95630

TABLE OF CONTENTS

1.	PROJECT LOCATION AND DESCRIPTION.....	2
2.	BOLOGICAL SETTING.....	2
3.	SURVEY METHODOLOGY	2
3.1.	PRELIMINARY DATA GATHERING AND RESEARCH	2
3.2.	FIELD SURVEYS.....	2
3.3.	MAPPING AND OTHER ANALYSES	3
3.4.	Previous Studies	3
3.5.	List of Sensitive Natural Communities with Potential to Occur in the Region.....	3
3.6.	List of Special Status Plants with Potential to Occur in the Region.....	4
4.	RESULTS	4
4.1.	LIST OF PLANT TAXA DETECTED DURING FIELD SURVEY(S).....	4
4.2.	LIST OF VEGETATION COMMUNITIES DETECTED DURING FIELD SUVERY(S)	8
4.3.	Adequacy of Botanical Field Surveys	8
5.	POTENTIAL PROJECT IMPACTS.....	9
6.	MITIGATION MEASURES / RECOMMENDATIONS.....	9
7.	QUALIFICATIONS OF BOTANICAL FIELD SURVEYORS AND REPORT AUTHORS.....	10
8.	REFERENCES	11
	EXHIBITS	A

1. PROJECT LOCATION AND DESCRIPTION

Graening and Associates LLB conducted a botanical field survey for a cannabis cultivation operation on a 30.6-acre parcel (APN 007-021-21) at 7255 Boggs Lane, Kelseyville, in Lake County, California. The proposed cannabis cultivation operation consists of converting a vineyard to a cultivation compound. The fenced compound will be approximately 2.25 acres in size and will be capable of producing up to 2 acres of mature Cannabis canopy.

For this assessment, the Project Area was defined as the cultivation area plus the ancillary facilities, and this 2.3-acre area was the subject of the impact analysis. The entire 31-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.

2. BIOLOGICAL SETTING

The Study Area is located within 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 14 “Northern California’s Inland Areas with Some Ocean Influence”, with maritime air moderating temperatures that would otherwise be hotter in summer and colder in the winter (Sunset, 2022). The topography of the Study Area is relatively flat, and consist of an agricultural field in the upper end of Big Valley. The elevation ranges from approximately 1,276 feet to 1,476 feet above mean sea level. Drainage runs to the west toward Adobe Creek. Prior to the establishment of this cultivation operation, land uses were rural residential and vineyard, and before that, a walnut orchard.

3. SURVEY METHODOLOGY

Survey methodology followed the following protocols:

- California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento Fish and Wildlife Office, Sacramento, California. 2 pp.
- California Native Plant Society. 2001. CNPS botanical survey guidelines.

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

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

- Aerial photography of the Project Area (current and historical)
- United States Geologic Service 7.5 degree-minute topographic quadrangles
- USFWS National Wetland Inventory
- USDA Natural Resources Conservation Service soil survey maps
- California Natural Diversity Database (CNDDDB), electronically updated monthly by subscription
- California Native Plant Society’s database *Inventory of Rare and Endangered Plants of California* (online edition).

The following reference sites were visited: Deemed not necessary.

3.2. FIELD SURVEYS

Dates of botanical field surveys:

- Tim Nosal, MS., March 29, 2022
- Kristen Ahrens, MS., June 15, 2024

Note: The qualifications of the botanical field surveyors and report authors are summarized at the end of this report.

Description of Survey Area: The field survey intensively surveyed the 2.3-acre Project Area (the cultivation area plus the ancillary facilities) and generally surveyed the rest of the 31-acre Property.

Note: A map of the survey area relative to the project area is shown in the Exhibits.

A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible taxa observed were recorded in a field notebook. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDDB within the vicinity of the Project Area and those species on the CNPS or USFWS species lists.

Taxa were identified to the taxonomic level necessary to determine whether or not they are a special status plant. When a specimen could not be identified in the field, a photograph was taken and/or a specimen was pressed 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 (2022); CDFW (2022b,c); NatureServe 2022; and University of California at Berkeley (2022a,b).

3.3. MAPPING AND OTHER ANALYSES

The locations of any special-status species or vegetation communities sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Vegetation community types occurring in the Survey 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. Locations of any species' occurrences and sensitive natural community boundaries detected within the Project Area were digitized to produce the final maps. Geographic analyses were performed using geographical information system software (ArcGIS 11, 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). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2022), Calflora (2022); CDFW (2022a,b,c); and University of California at Berkeley (2022a,b).

3.4. Previous Studies

No previous studies are known.

3.5. List of Sensitive Natural Communities with Potential to Occur in the Region

No critical habitat for any federally-listed plant species occurs within the Project Area or the surrounding Property. The CNDDDB reported no special-status habitats within the Project Area or surrounding Property.

Within the surrounding region (County-level), the CNDDDB has mapped the following special-status habitats: Serpentine Bunchgrass; Northern Volcanic Ash Vernal Pool; Coastal and Valley Freshwater Marsh; Northern Basalt Flow Vernal Pool; Northern Volcanic Ash Vernal Pool; Northern Interior Cypress Forest; and Northern Vernal Pool.

No sensitive natural communities were identified that could occur specifically in the Project Area.

3.6. List of Special Status Plants with Potential to Occur in the Region

A list of special-status plant species with potential to occur in the region was compiled based upon the following:

- A spatial query of the CNDDDB using a 10-mile buffer around the Property boundary.
- A 9-quadrangle query of the California Native Plant Society's database *Inventory of Rare and Endangered Plants of California* (online edition).

The databases were queried and any reported occurrences of special-status species were plotted in relation to the Project Area boundary using GIS software (see exhibits).

The CNDDDB reported no special-status species occurrences within the Project Area or the surrounding Study Area. Within a 10-mile buffer of the Property boundary, the CNDDDB reported various special-status plant species occurrences.

4. RESULTS

4.1. LIST OF PLANT TAXA DETECTED DURING FIELD SURVEY(S)

All plant taxa detected during the botanical field survey are listed in the following Table 1. During the botanical field survey, no special-status plant taxa were detected within the Project Area or surrounding Study Area.

Deposition locations of voucher specimens: n/a

TABLE 1: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Common Name	Scientific Name
Short-podded lotus	<i>Acmispon brachycarpus</i>
Hill lotus	<i>Acmispon parviflorus</i>
Chamise	<i>Adenostoma fasciculatum</i>
bigflower agoseris	<i>Agoseris grandiflora</i>
tumbleweed	<i>Amaranthus albus</i>
Common fiddleneck	<i>Amsinckia intermedia</i>
Western lady's mantle	<i>Aphanes occidentalis</i>
Common sandweed	<i>Athysanus pusillus</i>
Slender wild oat	<i>Avena barbata</i>
Coyote brush	<i>Baccharis pilularis</i>
mustard	<i>Brassica sp.</i>
Ripgut brome	<i>Bromus diandrus</i>
Soft chess	<i>Bromus hordeaceus</i>
Madrid brome	<i>Bromus madritensis</i>
Red maids	<i>Calandrinia ciliata</i>
Western bittercress	<i>Cardamine oligosperma</i>
Italian thistle	<i>Carduus pycnocephalus</i>
Valley tassels	<i>Castilleja attenuata</i>
Catalpa	<i>Catalpa sp.</i>
Wedge leaf ceanothus	<i>Ceanothus cuneatus</i>
Jim brush	<i>Ceanothus oliganthus var. sorediatus</i>
Sticky mouse-eared chickweed	<i>Cerastium glomeratum</i>
eastern redbud	<i>Cercis canadensis</i>
Narrow leaved miner's lettuce	<i>Claytonia parviflora</i>
Miner's lettuce	<i>Claytonia perfoliata</i>
field morning glory	<i>Convolvulus arvensis</i>
Pygmy weed	<i>Crassula tillaea</i>
Cypress	<i>Cupressus sp.</i>
Pacific houndstooth	<i>Cynoglossum grande</i>
Rattlesnake weed	<i>Daucus pusillus</i>
Blue wildrye	<i>Elymus glaucus</i>
Tall willowherb	<i>Epilobium brachycarpum</i>
Yerba santa	<i>Eriodictyon californicum</i>
Broad leaved filaree	<i>Erodium botrys</i>
Red-stemmed filaree	<i>Erodium cicutarium</i>
White stem filaree	<i>Erodium moschatum</i>
California poppy	<i>Eschscholzia californica</i>
Japanese spindletree	<i>Euonymus japonicus</i>
Brome fescue	<i>Festuca bromoides</i>

Rattail sixweeks grass	<i>Festuca myuros</i>
Bedstraw	<i>Galium aparine</i>
Climbing bedstraw	<i>Galium porrigens</i>
White flowered hawkweed	<i>Hieracium albiflorum</i>
Shortpod mustard	<i>Hirschfeldia incana</i>
Wall barley	<i>Hordeum murinum</i>
Goldwire	<i>Hypericum concinnum</i>
Klamath weed	<i>Hypericum perforatum</i>
Smooth cat's-ear	<i>Hypochaeris glabra</i>
Rough cat's-ear	<i>Hypochaeris radiata</i>
Northern California black walnut	<i>Juglans hindsii</i>
English walnut	<i>Juglans regia</i>
Rush	<i>Juncus sp.</i>
Juniper	<i>Juniper sp.</i>
Sharp-leaved fluellin	<i>Kickxia elatine</i>
Shining peppergrass	<i>Lepidium nitidum</i>
Peppergrass	<i>Lepidium strictum</i>
Japanese privet	<i>Ligustrum japonicum</i>
Narrowleaf cottonrose	<i>Logfia gallica</i>
Miniature lupine	<i>Lupinus bicolor</i>
Lupine	<i>Lupinus sp.</i>
Pacific woodrush	<i>Luzula comosa</i>
cheeseweed	<i>Malva parviflora</i>
apple	<i>Malus pumila</i>
Horehound	<i>Marrubium vulgare</i>
Pineapple weed	<i>Matricaria discoidea</i>
California burclover	<i>Medicago polymorpha</i>
mint	<i>Mentha spicata</i>
mulberry	<i>Morus alba</i>
Baby blue eyes	<i>Nemophila menziesii</i>
oleander	<i>Nerium oleander</i>
olive	<i>Olea europaea</i>
Gray pine	<i>Pinus sabiniana</i>
Popcornflower	<i>Plagiobothrys sp.</i>
Slender popcornflower	<i>Plagiobothrys tenellus</i>
English plantain	<i>Plantago lanceolata</i>
Annual bluegrass	<i>Poa annua</i>
Bulbous bluegrass	<i>Poa bulbosa</i>
peach	<i>Prunus persica</i>
pomegranate	<i>Punica granatum</i>
California scrub oak	<i>Quercus berberidifolia</i>
Blue oak	<i>Quercus douglasii</i>

Leather oak	<i>Quercus durata</i>
Interior live oak	<i>Quercus wislizeni</i> var. <i>wislizeni</i>
Delicate buttercup	<i>Ranunculus hebecarpus</i>
Buttercup	<i>Ranunculus</i> sp.
garden rose	<i>Rosa</i> sp.
Fragrant sumac	<i>Rhus aromatica</i>
Himalayan blackberry	<i>Rubus armeniacus</i>
Curly dock	<i>Rumex crispus</i>
Purple sanicle	<i>Sanicula bipinnatifida</i>
Pacific sanicle	<i>Sanicula crassicaulis</i>
Coastal snakeroot	<i>Sanicula laciniata</i>
South American soliva	<i>Soliva sessilis</i>
Sow thistle	<i>Sonchus oleraceus</i>
Hedge nettle	<i>Stachys</i> sp.
Sun cups	<i>Taraxia ovata</i>
poison oak	<i>Toxicodendron diversilobum</i>
vinegarweed	<i>Trichostema lanceolatum</i>
Tall sock-destroyer	<i>Torilis arvensis</i>
Cowbag clover	<i>Trifolium depauperatum</i>
Clover	<i>Trifolium</i> sp.
Common mullein	<i>Verbascum thapsus</i>
Western vervain	<i>Verbena lasiostachys</i>
Winter vetch	<i>Vicia villosa</i>
European grape	<i>Vitis vinifera</i>
Smooth mule ears	<i>Wyethia glabra</i>

4.2. LIST OF VEGETATION COMMUNITIES DETECTED DURING FIELD SURVEY(S)

The Study Area contains the following terrestrial vegetation communities: ruderal/disturbed; vineyard; and mixed oak 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.

Vineyard. These areas of converted natural habitat are in agricultural production as vineyard. The understory in vineyards usually consist of bare soil (controlled by tillage and/or herbicides) or a cover crop of herbaceous plants. Some species of birds and mammals have adapted to the vineyard habitats. However, many have become "agricultural pests". Similar to the ruderal/developed habitat type, the disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Mixed Oak Woodland. Portions of the Study Area have oak woodland. Dominant tree species are blue oak (*Quercus douglasii*) and interior live oak (*Quercus wislizeni*) and gray (*Pinus sabiniana*). The understory within the oak woodland is vegetated with annual grasses and native and non-native herb as well as chaparral species such poison-oak (*Toxicodendron diversilobum*), *Baccharis pilularis*, and *Ceanothus cuneatus*. dominant in the understory. Holland Type "Oak Forest" or as "*Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)* Mixed Oak Forest" (CDFW 2021e). This vegetation can be classified as the Holland Type "Interior Live Oak Woodland" or as "71.080.08 *Quercus wislizeni* (Interior Live Oak Woodland)" (CDFW 20212e).

During the botanical field surveys, no sensitive vegetation communities were detected within the Project Area.

4.3. Adequacy of Botanical Field Surveys

Potential for a false negative botanical field survey:

- Unlikely since surveys were performed early and late in the floristic period.

Did climatic conditions affect the botanical field survey results?

- There were no unusual climatic conditions.

Did the timing of botanical field surveys affect the comprehensiveness of botanical field surveys?

- No, since surveys were performed early and late in the floristic period.

5. POTENTIAL PROJECT IMPACTS

The Project Area contains vineyard and ruderal/developed habitats, which have a very low potential for harboring special-status plant species due to the dominance of monocultures or aggressive non-native grasses and forbs and disturbance associated with agriculture and other human uses. No special-status plant species were detected in the Project Area during the botanical field surveys. Special-status species are more likely to occur in sensitive and rare habitats, which are lacking in the Project Area. Thus, implementation of the proposed project will not directly impact any known special status plant population.

Indirect impacts could occur from the loss of suitable habitat for regionally-occurring special-status species. The majority of regionally-occurring special-status species occur in sensitive habitat types, all of which were avoided in project design of cultivation compound locations. Furthermore, the ground disturbance will occur on only 10 percent of the Property (3 acres out of 31 acres) involved in this Cannabis cultivation licensing application. This leaves the vast majority of the natural habitats undisturbed on the Property. For these reasons, project implementation will have a less than significant indirect or cumulative impact upon special-status species.

6. MITIGATION MEASURES / RECOMMENDATIONS

No additional mitigation measures are deemed necessary.

No further botanical field surveys are recommended

7. QUALIFICATIONS OF BOTANICAL FIELD SURVEYORS AND REPORT AUTHORS

G.O. GRAENING, Ph.D., M.S.E.

Dr. Graening holds a PhD in Biological Sciences and a Master of Science in Biological and Agricultural Engineering. Dr. Graening was an adjunct Professor at California State University at Sacramento for 10 years, and was an active researcher in the area of conservation biology. Dr. Graening is also a Certified Arborist (ISA # WE-6725A). Dr. Graening has over 25 years of experience in environmental assessment, including previous employment with The Nature Conservancy, Tetra Tech Inc., and CH2M Hill, Inc.

TIMOTHY R. D. NOSAL, M.S.

Mr. Nosal holds a B.S. and M.S. in Biological Sciences. Mr. Nosal has statewide experience performing sensitive plant and animal surveys in addition to terrestrial vegetation investigations. Mr. Nosal has over 25 years of experience in botanical surveys, environmental assessment, and teaching with employers that include California Department of Fish and Wildlife, State Water Resources Control Board, American River College, MTI College and Pacific Municipal Consultants. Mr. Nosal has intensive experience with the flora of the Pine Hill region, including leading numerous field trips exploring the botany of the region, co-authoring a fuel management plan for Pine Hill, and a Master's thesis on Stebbins's morning glory (*Calystegia stebbinsii*), an endangered plant of this region.

KRISTEN AHRENS, M.S.

Kristen Ahrens holds a B.S. and M.S. in Biological Sciences. Ms. Ahrens has experience performing delineations and sensitive plant and animal surveys and is currently a part-time instructor at California State University at Sacramento in the Department of Biological Sciences. Ms. Ahrens has over 15 years of experience in environmental assessment, research, and biology teaching with employers that include Brusca Associates, Inc., California Department of Fish and Wildlife, and U.S. Fish and Wildlife.

8. REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, and T.J. Rosatti, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition, thoroughly revised and expanded. University of California Press, Berkeley, California. 1,600 pp.

Calflora. 2022. Calflora, the on-line gateway to information about native and introduced wild plants in California. Internet database available at <http://calflora.org/>.

California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. California Natural Resources Agency, Department of Fish and Wildlife, Sacramento, California. 12 pp.

California Department of Fish and Wildlife. 2022. RareFind, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)

California Department of Fish and Wildlife. 2022. List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database. Available on the Internet at: <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities>.

California Native Plant Society. 2022. Inventory of Rare and Endangered Plants. Rare Plant Scientific Advisory Committee, David P. Tibor, convening editor. California Native Plant Society. Sacramento, California. Internet database available at <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>.

California Native Plant Society. 2001. CNPS botanical survey guidelines. Pages 38-40 in California Native Plant Society's inventory of rare and endangered vascular plants of California (D.P. Tibor, editor). Sixth edition. Special Publication No. 1, California Native Plant Society, Sacramento, 387 pp.

Jepson Flora Project (eds.) 2023. Jepson eFlora, <https://ucjeps.berkeley.edu/eflora/>

Lanner, R. M. 2002. Conifers of California. Cachuma Press, Los Olivos, California. 274 pp.

Natural Resources Conservation Service. 2022. Web Soil Survey. National Cooperative Soil Survey, U.S. Department of Agriculture. NRCS Soils Website (Internet database and digital maps) available at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

Pavlik, B. M., P. C. Muick, S. G. Johnson, and M. Popper. 1991. Oaks of California. Cachuma Press and the California Oak Foundation. Los Olivos, California. 184 pp.

Sawyer, J. O., and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, Sacramento, California. Available electronically at <http://davisherb.ucdavis.edu/cnpsActiveServer/index.html>.

Stuart, J. D., and J. O. Sawyer. 2001. Trees and Shrubs of California. California Natural History Guides. University of California Press, Berkeley, California. 467 pp.

Sunset Western Garden Collection. 2022. Sunset Climate Zones. Sunset Publishing Corporation. Available on the Internet at: <https://www.sunsetwesterngardencollection.com/climate-zones>.

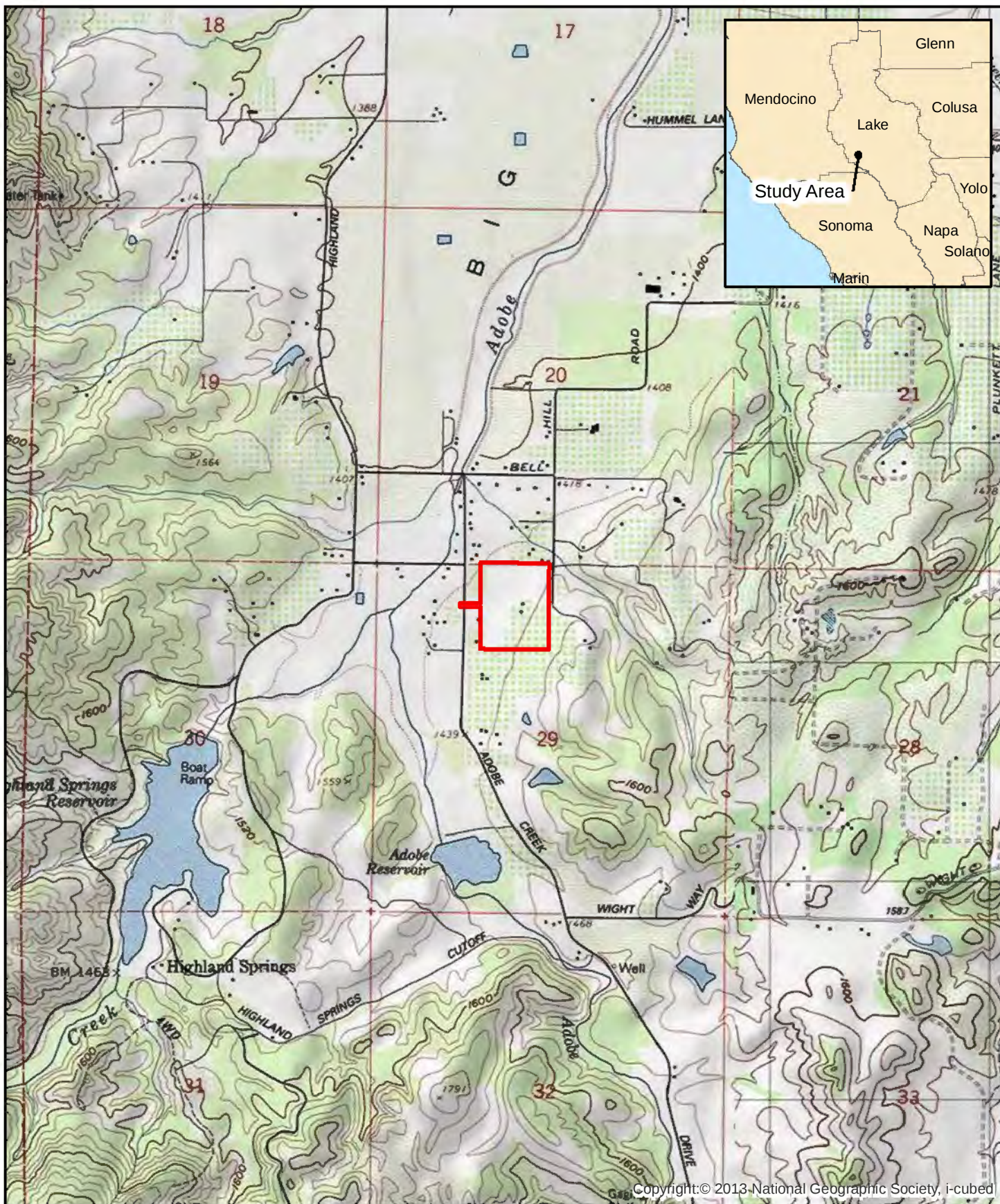
University of California at Berkeley. 2022a. Jepson Online Interchange for California Floristics. Jepson Flora Project, University Herbarium and Jepson Herbarium, University of California at Berkeley. Internet database available at <http://ucjeps.berkeley.edu/interchange.html>.

University of California at Berkeley. 2022b. CalPhotos. Biodiversity Sciences Technology Group, University of California at Berkeley. Internet database available at <http://calphotos.berkeley.edu/>

U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento Fish and Wildlife Office, Sacramento, California. 2 pp.

United States Fish and Wildlife Service. 2022. Wetlands Digital Data. National Wetlands Inventory Center. Digital maps downloaded from the Internet at <https://www.fws.gov/wetlands/>.

EXHIBITS



Study Area

0 0.25 0.5
Miles

1:24,000

**7255 Boggs Lane
Study Area Location Map**

NATURAL
INVESTIGATIONS
COMPANY

— Roads

— Parcel boundaries

— Cannabis Production Area

Vegetation Community Types

— Mixed oak woodland

— Urbanized/developed

— Vineyard



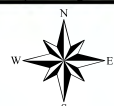
Habitat Types

7255 Boggs Lane, Kelseyville

 NATURAL INVESTIGATIONS COMPANY



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

 Study Area	0 300 600 Feet		7255 Boggs Lane USDA Soils Map
1:5,000			 NATURAL INVESTIGATIONS COMPANY

- Parcel boundaries
- Cannabis Production Area
- Roads

Water Resources

Note: There are no wetlands or channels on this property.

Well

Well

Well

Water Resources

7255 Boggs Lane, Kelseyville

NATURAL INVESTIGATIONS
COMPANY

700 ft

