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Biological Study

Kitoko Winery P17-00373-UP
Planning Commission Hearing – October 16, 2019

BIOLOGICAL RESOURCES ASSESSMENT
FOR THE

±6.2-ACRE KITOKO VINEYARD STUDY AREA

NAPA COUNTY, CALIFORNIA

Prepared for:
Kitoko Vineyard
3189 Atlas Peak Road
Napa, CA 94558

Prepared by:

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DECEMBER 2017

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Biological Resources Assessment
for the
±6.2-ACRE KITOKO VINEYARD STUDY AREA

INTRODUCTION

Study Area Location

Salix Consulting, Inc. (Salix) has prepared a Biological Resources Assessment for the ±6.2-acre Kitoko Vineyard Study Area (study area) located in the Atlas Peak area of unincorporated Napa County. The study area is located at 3201 Atlas Peak Road within Section 06 of Township 6 North and Range 3 West on the Capell Valley USGS 7 ½ minute quadrangle (Figure 1). The approximate coordinates for the center of the property are: 38°23'44.86"N and 121°14'32.99"W. The APN for the parcel included in the study area is 033-010-034.

Study Area Setting

The mostly undeveloped site occurs in the hills east of the Napa Valley floor. Elevations range from approximately 1340 feet at the driveway entrance on Atlas Peak Road to 1395 feet in the western portion of the study area. Prior to the Atlas fire in October 2017, a homestead and associated outbuildings occurred just south of the study corridor and there were no other structures in the area. About half of the site is grassland and half is chaparral. A residential driveway is located along the eastern end of the study area. The remaining property is fallow with evidence of historical disturbance. Vineyards were located to the west of the site (Figure 2).

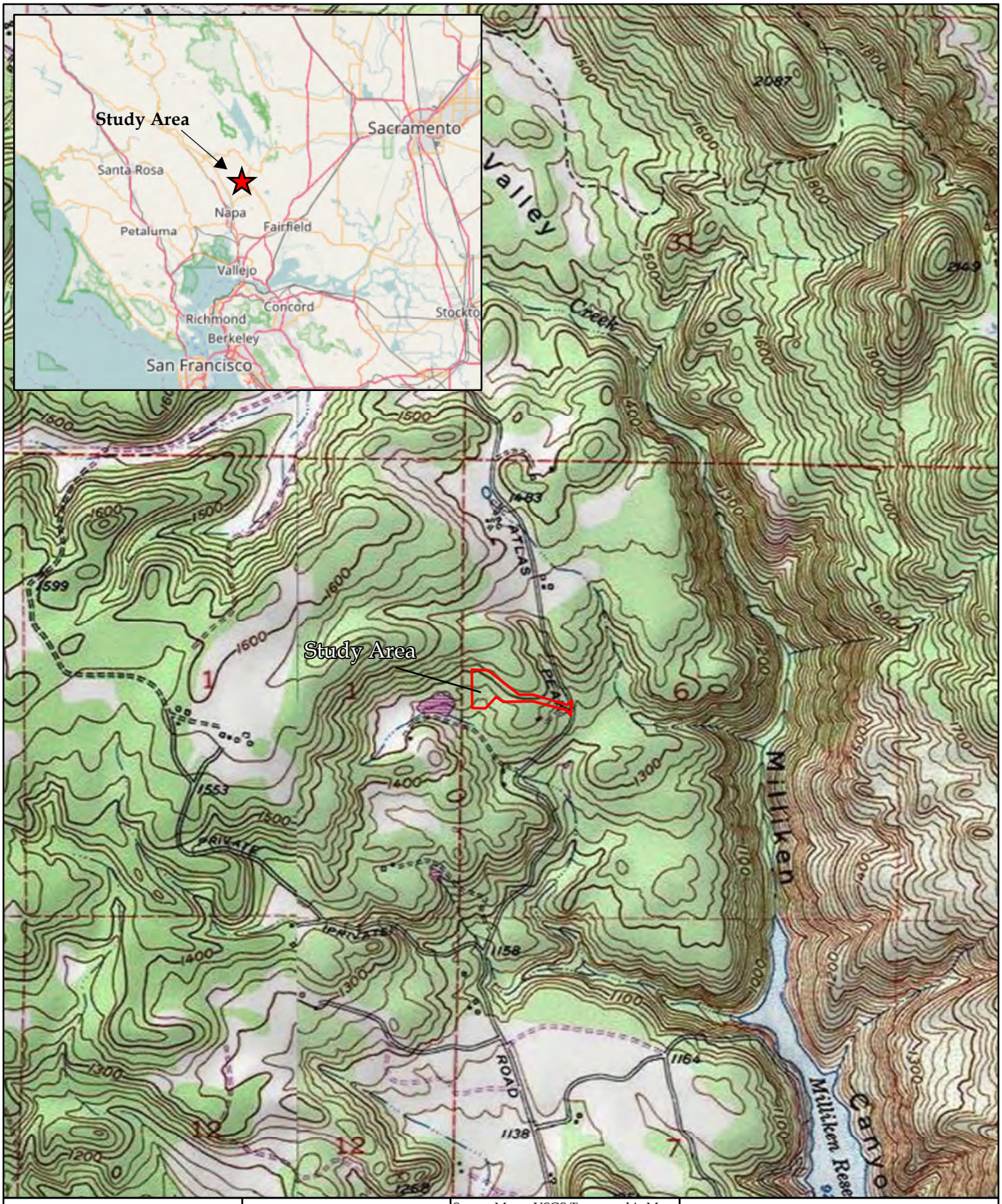
Objectives of Biological Resources Assessment

- Identify and describe the biological communities present in the study area;
- Evaluate and identify if any sensitive habitats or special-status plant and animal species exist or could exist on the site;
- Conduct an analysis to determine if waters of the U.S. are present, and
- Provide conclusions and recommendations.

METHODS

Literature Review

Salix biologists reviewed aerial photographs, USGS maps, and site maps for the study area. Standard publications were reviewed to provide information on life history, habitat requirements, and distribution of regionally occurring animal species. They include published books, peer-reviewed articles, field guides, the California Wildlife



Salix consulting, inc.

N

0 1,000 2,000

Feet

Source Maps: USGS Topographic Map
Capell Valley Quad 1:24,000
§06 T06N R03W

Figure 1

SITE AND VICINITY MAP

Kitoko Vineyards

Napa County, CA

Salix consulting, inc.

N

0 75 150

Feet

Study Area
(±6.2 acres)

Imagery: 6-2-17 Salix Consulting, Inc.

Figure 2

AERIAL MAP

Kitoko Vineyards

Napa, Napa County, CA

Habitats Relationships Program, and the *Napa County Baseline Data Report*. Publications utilized in this assessment are included in the References section of this document.

Special-Status Species Reports

To determine which special-status species could occur within or near the study area Salix biologists queried the California Natural Diversity Data Base (CDFW 2017) and the California Native Plant Society Inventory (CNPS 2017) for reported occurrences of special-status fish, wildlife, and plant species in the region surrounding the study area. The nine-quadrangle search area included the Capell Valley, Chiles Valley, Fairfield North, Lake Berryessa, Monticello Dam, Mt. George, Mt. Vaca, Napa, and Yountville USGS quadrangles. Salix biologists also reviewed the following special-status species lists for the project vicinity:

- U.S. Fish and Wildlife Service (USFWS) IPaC Resources Report for the study area; and
- California Department of Fish and Wildlife list of Species of Special Concern.

For the purposes of this report, special-status species are those that fall into one or more of the following categories:

- Listed as endangered or threatened under the federal Endangered Species Act (or candidate species, or formally proposed for listing);
- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as rare, protected, or fully protected pursuant to California Fish and Game Code;
- Designated a Species of Special Concern by the California Department of Fish and Wildlife, or
- Designated as Ranks 1,2, or 3 on lists maintained by the California Native Plant Society.

Field Assessments

Field assessments of the study area were conducted by Jeff Glazner (Principal Biologist) on June 2 and August 5, 2017 (prior to the Atlas fire) to characterize existing conditions, assess the potential for sensitive plant and wildlife resources to occur, and determine if waters of the U.S. were present onsite. During the field assessments, plants and animals observed were documented, and habitat types were determined. Biological communities of the study area were mapped, and representative ground and aerial photographs were taken.

Plants observed are listed in Appendix A and animals observed are listed in Appendix B. Plant names are according to *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et. al. 2012) and updated literature that supersedes the Jepson Manual. Standard manuals were used as needed to identify wildlife species observed.

Biological Communities

Habitat components of the study area were mapped and are shown in Figure 3. Representative site photographs are presented in Figures 4a, 4b and 4c.

Table 1
Habitat Components
within the Kitoko Vineyard Study Area

Habitat Component	Approximate Acreage
Annual Grassland	2.7
Chaparral	3.4
Pavement	0.1
Total	**6.2**

Annual Grassland

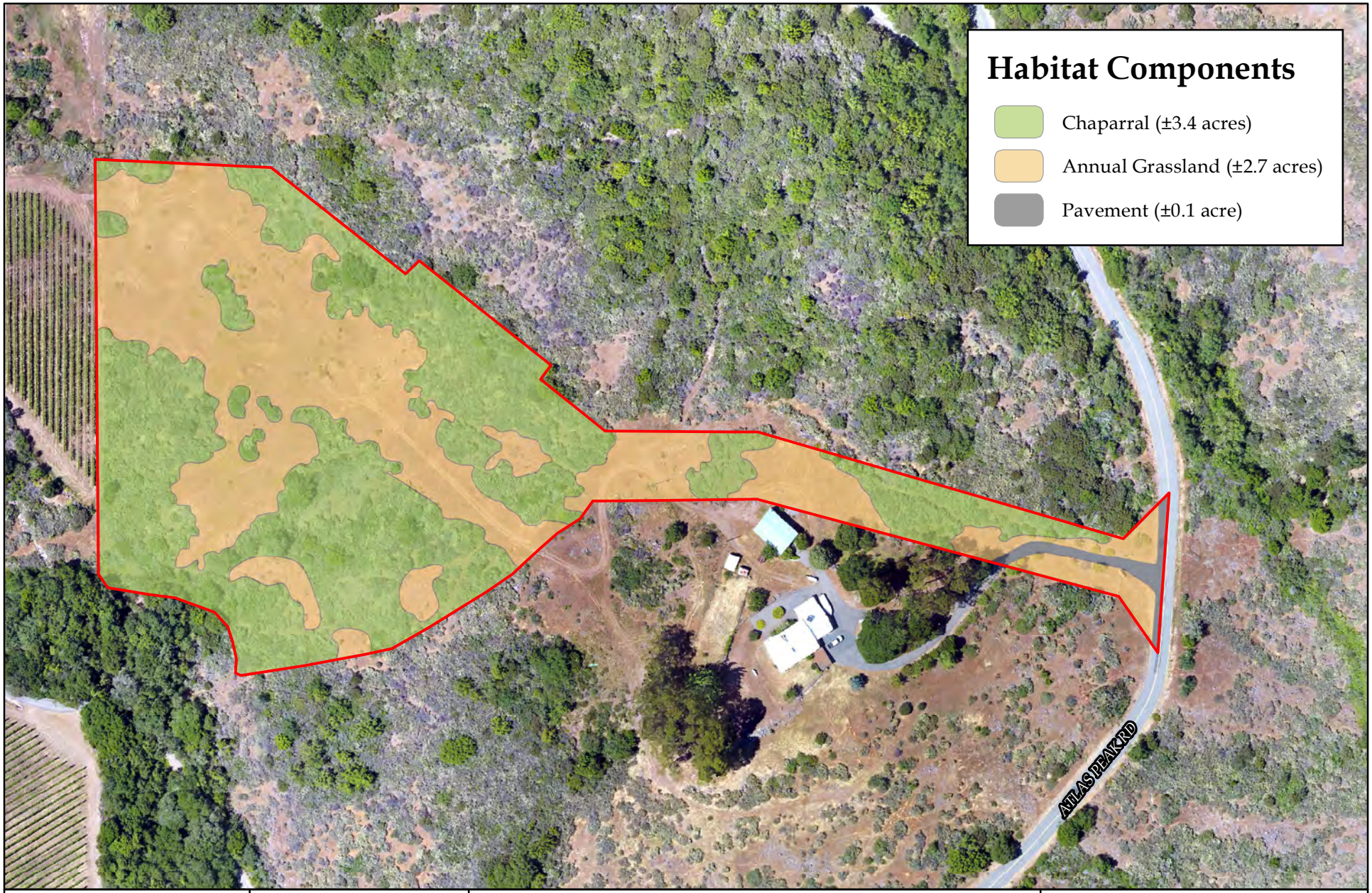
About half of the site is annual grassland. Areas of the grassland have been recently disturbed by typical residential activities but most of the grassland is in a fallow state and dominated by weedy species. Common species include wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Festuca perennnis*), and nit grass (*Gastridium phleoides*). Purple needlegrass (*Stipa pulchra*) is also quite common. Common non-grass species include smooth cat's ear (*Hypochaeris glabra*), black mustard (*Brassica nigra*), rose clover (*Trifolium hirtum*), narrowleaf flax (*Linum bienne*) and chaffweed (*Lysimachia minima*) (Figure 4a). Notable native herbaceous species include paper onion (*Alium amplectens*), superb mariposa lily (*Calochortus spuerbus*), elegant harvest brodiaea (*Brodiaea elegans*) and lace parsnip (*Lomatium dasycarpum* subsp. *dasycarpum*). Napa bluecurls *(Trichostema ruygtii*) was observed in the grassland and areas as well as openings in the chaparral.

Chaparral

The chaparral community is dense covers nearly half of the site. The dominant species is chamise (*Adenostoma fasciculatum*) accounting for the majority of the shrubs. Scrub oak (*Quercus berberidifolia*) is a common component as is the smaller stature interior live oak (*Q. wislizeni*). Coyote brush (*Baccharis pilularis*), yerba santa (*Eriodictyon californicum*), and common manzanita (*Arctostaphylos manzanita*) are common in the chaparral as well.

Pavement

The entire Project site is unpaved except for an asphalt driveway the enters the site from Atlas Peak Road, and the house and outbuildings pads. The driveway serves the single-family residence adjacent to the study area. Oleander (*Nerium oleander*) is planted along the driveway. Several large and tall eucalyptus (*Eucalyptus globulus*) are associated with the residence.



Salix consulting, inc.

N

0 75 150

Feet

Study Area
(±6.2 acres)

Imagery: 6-2-17 Salix Consulting, Inc.

Figure 3

HABITAT MAP

Kitoko Vineyards

Napa, Napa County, CA

Looking at entrance to study area from Atlas Peak Road.
Photo date 6-2-17

Looking west over study area. Dominant chaparral species is chamise.
Photo date 6-2-17

Looking northwest along study area.
Photo date 6-2-17

Salix consulting, inc.

Figure 4a

SITE PHOTOS

Kitoko Vineyard

Napa County, CA

Looking north over eastern portion of study area and entrance to study area off Atlas Peak Road
Photo date 6-2-17

Looking west over western portion of study area.
Photo date 6-2-17

Salix consulting, inc.

Figure 4b

SITE PHOTOS

Kitoko Vineyard

Napa County, CA

Soils

Two soil units were identified on the site: Hambright Rock-outcrop complex, 2 to 30 percent slopes and Hambright Rock-outcrop complex, 30 to 75 percent slopes. The study area is primarily Hambright Rock-outcrop complex, 30 to 75 percent slopes. The Hambright Rock-outcrop complex, 2 to 30 percent slopes appears in a very small portion of the site near along the driveway at the Atlas Peak Road entrance.

Hambright Rock-outcrop complex, 2 to 30 percent slopes

The Hambright component makes up 50 percent of the map unit. Slopes are 2 to 30 percent. This component is on uplands, plateaus, hills. The parent material consists of residuum weathered from basic volcanic rock. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R015XD127CA Very Shallow Rocky ecological site. Non-irrigated land capability classification is 7s. Irrigated land capability classification is 7s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Hambright Rock-Outcrop complex, 30 to 75 percent slopes

The Hambright component makes up 50 percent of the map unit. Slopes are 30 to 75 percent. This component is on hills, uplands. The parent material consists of residuum weathered from basic volcanic rock. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R015XD127CA Very Shallow Rocky ecological site. Non-irrigated land capability classification is 7e. Irrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Waters of the U.S

The site was evaluated for areas that may be considered waters of the U.S. Waters of the U.S. are regulated by the U.S. Army Corps of Engineers, the State Regional Water Quality Control Board, Napa County, and depending on the type, the California Department of Fish and Wildlife. The site does not contain any areas that may be waters of the U.S.

Wildlife Occurrence and Use

The study area supports many animal species common throughout the region. Species observed include turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), American crow (*Corvus brachyrhynchos*), western scrub jay (*Aphelocoma californica*), and

mourning dove (*Zenaida macroura*). Other species evident through scat or tracks include raccoon, mule deer, coyote and opossum. A list of wildlife observed is provided in Appendix B.

Special-Status Species

To determine potentially-occurring special-status species, the standard databases from the USFWS, CDFW (CNDDB 2017), and CNPS were queried and reviewed. These searches provided a thorough list of regionally occurring species and were used to determine which species had at least some potential to occur within or near the study area.

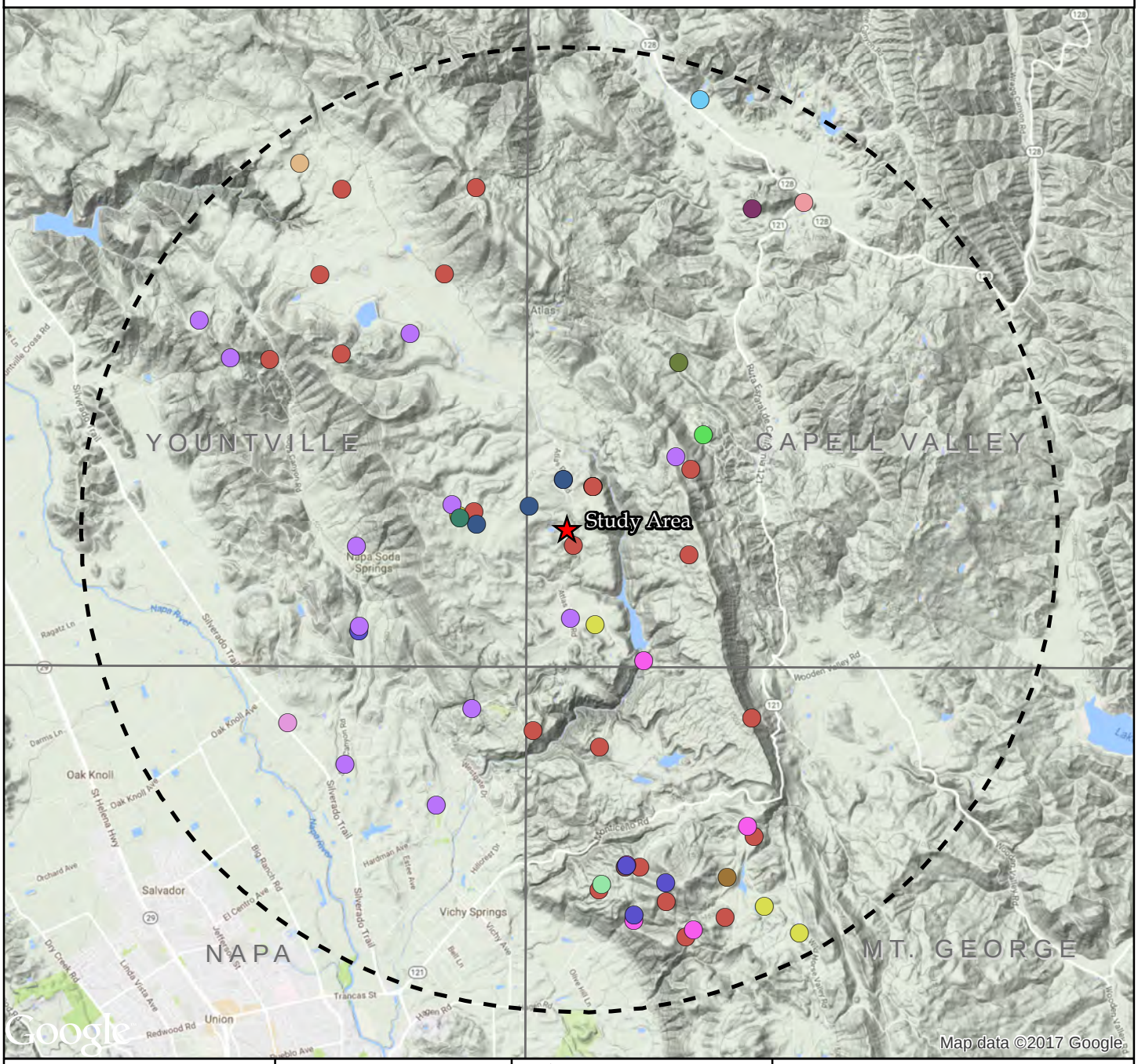
Appendix C lists potentially-occurring special-status plants, and Appendix D lists special-status animals compiled from our queries as described above. The field survey and the best professional judgment of Salix biologists were used to further refine the tables in Appendices C and D. Additionally, plant species found on the CNPS List 4 are not considered further in the document.

Plants

Of the 47 potentially-occurring special-status plant species in Appendix C, 17 species were identified as occurring within the surrounding region; Figure 5a shows approximate locations of CNDDB special-status plants within a five-mile radius of the study area.

CNDDB Special-Status Plants

- Agrostis hendersonii
- Brodiaea leptandra
- Castilleja ambigua var. meadii
- Ceanothus purpureus
- Cryptantha dissita
- Downingia pusilla
- Erigeron greenei
- Hesperolinon breweri
- Hesperolinon sharsmithiae
- Juglans hindsii
- Lasthenia conjugens
- Leptosiphon jepsonii
- Navarretia leucocephala ssp. pauciflora
- Rhynchospora californica
- Sidalcea hickmanii ssp. napensis
- Sidalcea keckii
- Trichostema ruygtii



Salix consulting, inc.

N

0 1 2

Miles

Study Area

5-Mile Radius

Figure 5a

CNDDB PLANT OCCURRENCES

Kitoko Vineyard

Napa County, CA

Of the special-status plant species listed in Appendix C, two (2) have no potential to occur because the elevational limits of the species are outside the elevation of the study area. These include Clara Hunt's milkvetch (*Astragalus claranus*) and showy Indian clover (*Trifolium amoenum*). These two species have been dismissed from further consideration

Of the special-status plant species listed in Appendix C, 15 have no potential to occur due to the absence of suitable aquatic habitats within the study area, including marshes and swamps (freshwater or brackish) and vernal pools. Due to the lack of these wet habitats, the species listed in Table 2a below have been dismissed from further consideration. Six (6) of these occur within a 5-mile radius of the study area (Figure 5a) and are marked by * in the table below.

Table 2a

Special-status Plant Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area due to the Absence of Marshes, Swamps, Vernal pools

Species	*Federal/State Status*	*CNPS Rank*	*Occurs within 5 miles*
Jepson's coyote thistle *Eryngium jepsonii*		1B.2	
Mason's lilaeopsis *Lilaeopsis masonii*	-/CR	1B.1	
Contra Costa goldfields *Lasthenia conjugens*	FE	1B.1	*
Suisun marsh aster *Symphyotrichum lentum*		2B.2	
Dwarf downingia *Dwarf downingia*			*
Legenere *Legenere limosa*		1B.1	
California beaked-rush *Rhynchospora californica*		1B.1	*
Delta tule pea *Lathyrus jepsonii jepsonii*		1B.2	
Saline clover *Trifolium hydrophilum*		1B.2	
Sebastopol meadowfoam *Limnanthes vinculans*	FE/CE	1B.1	
Mead's owl's-clover *Castilleja ambigua meadii*		1B.1	*

Table 2a

Special-status Plant Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area due to the Absence of Marshes, Swamps, Vernal pools

Species	*Federal/State Status*	*CNPS Rank*	*Occurs within 5 miles*
Henderson's bent grass *Agrostis hendersonii*		3.2	*
Baker's navarretia *Navarretia leucocephala bakeri*		1B.1	
Few-flowered navarretia *Navarretia leucocephala pauciflora*	FE/CT	1B.1	*
Slender-leaved pondweed *Stuckenia filiformis alpina*		2B.2	

***Status**

Federal:
FE - Federal Endangered
State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CNPS (California Native Plant Society - List.RED Code):
Rank 1A - Extinct
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 2A- Plants extinct in California, but more common elsewhere
Rank 2B - Plants rare, threatened, or endangered in California, more common elsewhere
Rank 3 - Plants about which more information is needed, a review list
RED Code
1 - Seriously endangered (>80% of occurrences threatened)
2 - Fairly endangered (20 to 80% of occurrences threatened)
3 - Not very endangered (<20% of occurrences threatened)

In addition, 20 special-status plant species require either specific soil types or habitats not found within the study area. Due to the lack of alkaline, serpentinite, other specific soil types or suitable habitats, the species listed in Table 2b below have been dismissed from further consideration: Four (4) of these occur within a 5-mile radius of the study area (Figure 5a) and are marked by * in the table below.

Table 2b

Special-status Plant Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area due to the Absence of Appropriate Soil and/or Habitat Types

Species	*Required soil/ habitat type*	*Federal/ State Status*	*CNPS Rank*	*Occurs within 5 miles*
Western viburnum *Viburnum ellipticum*	Chaparral; cismontane woodland; lower montane coniferous forest		2B.3	

Table 2b

Special-status Plant Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area due to the Absence of Appropriate Soil and/or Habitat Types

Species	*Required soil/ habitat type*	*Federal/ State Status*	*CNPS Rank*	*Occurs within 5 miles*
Small-flowered calycadenia *Calycadenia micrantha*	Chaparral; meadows and seeps; valley and foothill grasslands (roadsides, talus, sometimes serpentine).		1B.2	
Pappose tarplant *Centromadia parryi parryi*	Coastal prairie; meadows and seeps; marshes and swamps; vernally wet grassland (sometimes alkaline).		1B.2	
Narrow-leaved daisy *Erigeron greenei*	Serpentinite		1B.2	*
Colusa layia *Layia septentrionalis*	Chaparral; cismontane woodland, valley and foothill grassland; [sandy, serpentinite].		1B.2	
Mount Diablo cottonweed *Micropus amphibolus*	Broad-leaf upland forest; cismontane woodland; valley and foothill grassland.		3.2	
Serpentine cryptantha *Cryptantha dissita*	Serpentinite		1B.2	*
Jewelflower *Streptanthus hesperidis*	Serpentinite, rocky		1B.2	
San Joaquin spearscale *Extriplex joaqinana*	Alkaline		1B.2	
Alkali milkvetch *Astragalus tener tener*	Adobe clay, alkaline		1B.2	
Northern California black walnut *Juglans hindsii*	Riparian forest; riparian woodland.		1B.1	*
Mt. Diablo fairy lantern *Calochortus pulchellus*	Chaparral; cismontane woodland; valley and foothill grassland.		1B.2	

Table 2b

Special-status Plant Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area due to the Absence of Appropriate Soil and/or Habitat Types

Species	*Required soil/ habitat type*	*Federal/ State Status*	*CNPS Rank*	*Occurs within 5 miles*
Adobe-lily *Fritillaria pluriflora*	Chaparral; cismontane woodland; valley and foothill grassland; [often adobe].		1B.2	
Two-carpellate western flax *Hesperolinon bicarpellatum*	Chaparral (serpentinite).		1B.2	
Sharsmith's western flax *Hesperolinon sharsmithiae*	Chaparral (serpentinite).		1B.2	*
Marin checkerbloom *Sidalcea hickmanii viridis*	Chaparral (serpentinite).		1B.3	
Sonoma beardtongue *Penstemon newberryi sonomensis*	Chaparral (rocky).		1B.3	
Woolly-headed gilia *Gilia capitata tomentosa*	Coastal bluff scrub (rocky, outcrops).		1B.1	
Marin County navarretia *Navarretia rosulata*	Closed-cone coniferous forest; chaparral; [serpentinite].		1B.2	
Sonoma ceanothus *Ceanothus sonomensis*	Chaparral (sandy, serpentinite, or volcanic).		1B.2	

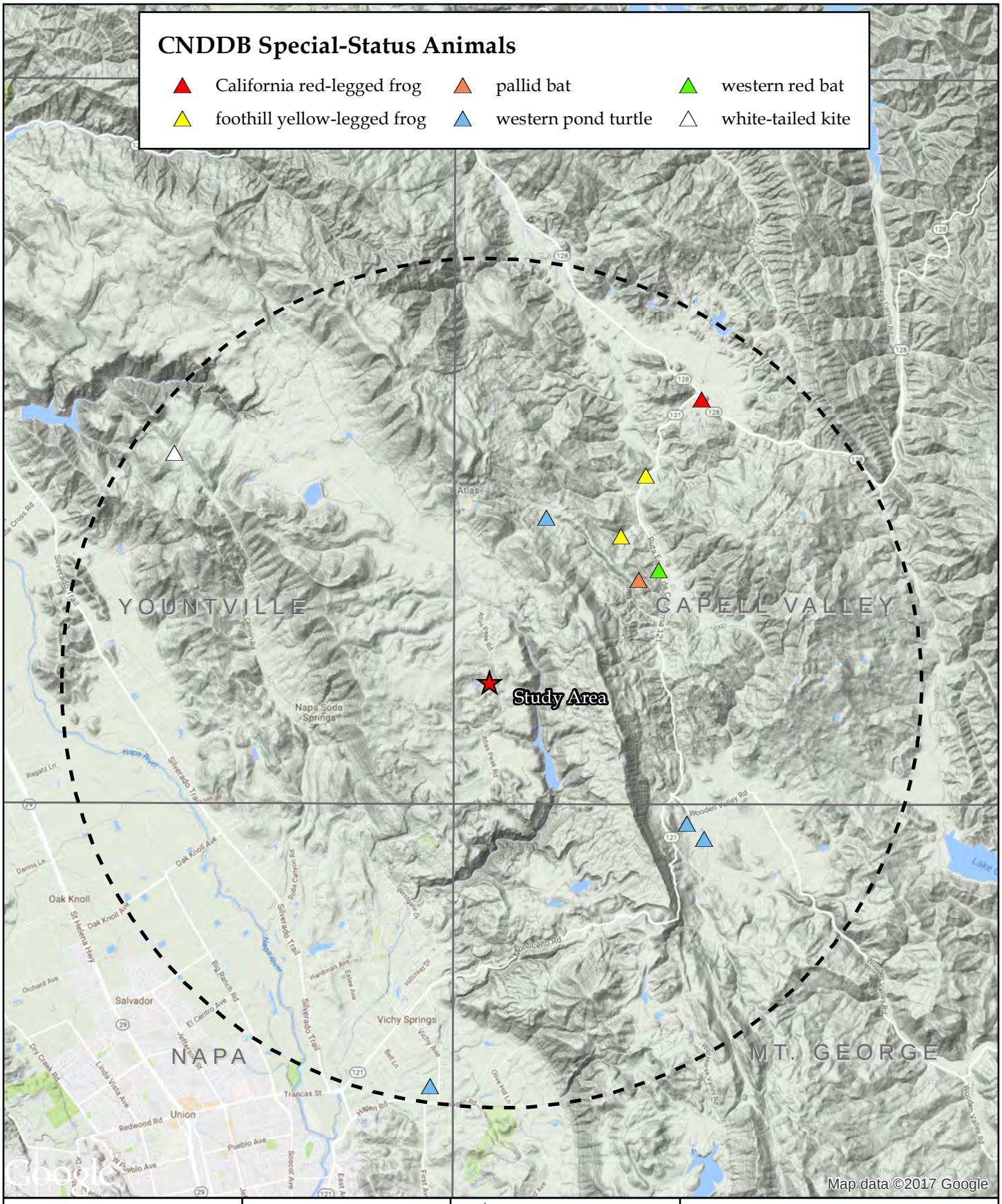
***Status**

CNPS (California Native Plant Society - List.RED Code):
Rank 1A - Extinct
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 2A- Plants extinct in California, but more common elsewhere
Rank 2B - Plants rare, threatened, or endangered in California, more common elsewhere
Rank 3 - Plants about which more information is needed, a review list
RED Code
1 - Seriously endangered (>80% of occurrences threatened)
2 - Fairly endangered (20 to 80% of occurrences threatened)
3 - Not very endangered (<20% of occurrences threatened)

The potential for occurrence of the remaining 10 special-status plant species listed in Appendix C is summarized in Table 4 below.

Animals

Of the 28 animal species in Appendix D, six (6) species were identified as occurring within the surrounding region; Figure 5b shows approximate locations of CNDDB special-status animals within a five-mile radius of the study area.



Salix consulting, inc.

N

0 1 2

Miles

Study Area

5-Mile Radius

Figure 5b

CNDDB ANIMAL OCCURRENCES

Kitoko Vineyard

Napa County, CA

Of the 28 special-status animal species listed in Appendix D, none have any potential to occur due to the absence of suitable habitats. These are listed below in Table 3. The six species that occur within a 5-mile radius of the study area are marked by **^** in the table below. All special-status animal species in Table 3 have been dismissed from further consideration due to the absence of suitable habitat.

Table 3.
Special Status Animal Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area

Species	Status* Federal	State	Habitat	Reason for NO POTENTIAL to occur
Invertebrates				
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	-	Vernal pools and other temporary bodies of water in southern and Central Valley of CA	No vernal pools or similar wetlands onsite
Conservancy fairy shrimp *Branchinecta conservatio*	FE	-	Endemic to the Central Valley and southern coastal regions of California. Prefers larger, turbid, cool-water vernal pools located in alluvial swales.	No vernal pools or similar wetlands onsite
California freshwater shrimp *Syncaris pacifica*	FE	CE	Endemic to Marin, Napa, and Sonoma counties in low gradient streams with moderate to heavy riparian canopy. Needs shallow pools away from the main stream flow. Prefers undercut banks with exposed roots.	No suitable habitat within study area.
Insects				
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	-	Requires host plant, elderberry (*Sambucus nigra*) for most of its life cycle.	None. Project site west of know range; no suitable habitat (no host plant) present within study area.
Fish				
Steelhead, Central California Coast ESU *Oncorhynchus mykiss iideus*	FT	-	Occurs below man-made impassable barriers in the Sacramento and San Joaquin rivers and tributaries. Yuba River has essentially the only remaining wild steelhead fishery in Central Valley.	No suitable habitat present within study area. (No streams)

Table 3.
Special Status Animal Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area

Species	Status* Federal	State	Habitat	Reason for NO POTENTIAL to occur
Delta smelt *Hypomesus transpacificus*	FT	CT	Endemic to Sacramento-San Joaquin delta in coastal and brackish waters, seasonally in Suisun and San Pablo Bays..Usually spawns in dead-end sloughs, shallow channels.	No suitable habitat present within study area. (No streams)
Longfin smelt *Spirinichus thaleichthys*	-	SSC	Endemic to the lower reaches of the Sacramento-San Joaquin River system. Inhabits open waters in the Delta and Suisun Bay. After spawning, larvae are carried downstream to brackish nursery areas.	No suitable habitat present within study area. (No streams)
Amphibians				
California red-legged frog^ *Rana draytonii*	FT	SSC	Ponds and deeper pools along streams with emergent or overhanging vegetation. Surface water to at least June.	No suitable habitat (streams, wetlands) present within study area.
Foothill yellow-legged frog^ *Rana boylii*	-	SSC	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg-laying.	No suitable habitat (streams, wetlands) present within study area.
California tiger salamander *Ambystoma californiense*	FT	CT	Annual grassland habitat (<1500 feet); occasionally in grassy understory of valley-foothill hardwood habitats where lowland aquatic sites are available for breeding.	No suitable habitat (streams, wetlands) present within study area.
California giant salamander *Dicamptodon ensatus*	-	SSC	Occurs in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages in Mendocino, Lake, Glenn, Sonoma, Marin, and San Mateo to Santa Cruz counties.	No suitable habitat (streams, wetlands) present within study area.
Reptiles				
Western pond turtle ^ *Actinemys marmorata*	-	SSC	Inhabits ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs suitable backing sites and upland habitat for egg-laying.	No suitable habitat present within study area.

Table 3.
Special Status Animal Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area

Species	Status* Federal	State	Habitat	Reason for NO POTENTIAL to occur
Birds				
White-tailed kite^ *Elanus leucurus-*		CFP	Found in lower foothills and valley margins with scattered oaks and along river bottomlands or marshes adjacent to oak woodlands. Nests in trees with dense tops.	No nesting habitat present onsite.
Bald eagle *Haliaeetus leucocephalus*		CE, CFP	Occurs along shorelines, lake margins, and rivers. Nests in large old-growth or dominant trees with open branches.	No nesting habitat present onsite.
Swainson's hawk *Buteo swainsoni*		CT	Breeds in open areas with scattered trees; prefers riparian and sparse oak woodland habitats. Requires nearby grasslands, grain fields, or alfalfa for foraging. Rare breeding species in Central Valley	No nesting habitat present onsite.
Golden eagle *Aquila chrysaetos*		CFP	Found in rolling foothill grassland with scattered trees. Nests on cliffs and in large trees in open areas.	No nesting habitat present onsite.
American peregrine falcon *Falco peregrinus anatum*	-	CE	Nests on cliffs, banks, dunes, mounds, and tall man-made structures.	No nesting habitat present onsite.
Northern spotted owl Strix occidentalis caurina	FT	SSC	Dense, old growth, multi-layered, mixed conifer, redwood, and Douglas fir habitats with large trees and snags.	No nesting habitat present onsite
Burrowing owl *Athene cunicularia*		SSC	Found in annual and perennial grasslands. Nests in burrows dug by small mammals, primarily ground squirrels.	Normally found in non-woody, flat, lowlands. No ground squirrels observed. No burrowing owls observed.
Bank swallow *Riparia riparia*		CT	Colonial nester near riparian and other lowland habitats. Requires vertical banks or cliffs with fine-textured, sandy soils near streams, rivers, and lakes.	No suitable nesting habitat (river) within study area.

Table 3.
Special Status Animal Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area

Species	Status* Federal	State	Habitat	Reason for NO POTENTIAL to occur
Tri-colored blackbird ^ *Agelaius tricolor*		CE	Colonial nester in dense cattails, tules, brambles, or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	No nesting habitat present within study area.
Saltmarsh common yellowthroat *Geothlypsis trichas sinuosa*	-	SSC	Resident of freshwater and salt water marshes in the San Francisco Bay region. Requires thick, continuous cover for foraging and tall grasses, tules, or willows for nesting.	No suitable nesting habitat within study area.
Yellow-breasted chat *Icteria virens*	-	SSC	Found in riparian thickets of willow and other brushy vegetation along watercourses. Nests in low, dense riparian vegetation and trees.	No suitable nesting habitat within study area.
Mammals				
Suisun shrew ^ *Sorex ornatus sinuosus*	-	SSC	Inhabits tidal marshes in the northern end of San Pablo and Suisun Bays. Requires dense, low cover of plants, driftwood, and other litter above the mean high tide line.	No suitable habitat within study area.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*		CC/SSC	Most common in mesic sites with forest or woodland component. Roosting and maternity sites in caves, mines, lava tubes, tunnels, and buildings. Gleans insects from brush or trees and feeds along habitat edges.	No roosting habitat present within study area.
Pallid bat^ *Antrozous pallidus*	-	SSC	Occurs in grasslands, woodlands, deserts, and urban habitats. Open habitat required for foraging. Common in dry habitats with rocky outcrop, cliffs, and crevices for roosting. Roosts include caves, mines, bridges, and occasionally hollow trees, buildings.	No roosting habitat present within study area

Table 3.
Special Status Animal Species Determined to have NO POTENTIAL to Occur Within the Kitoko Vineyard Study Area

Species	Status* Federal	State	Habitat	Reason for NO POTENTIAL to occur
Western red bat ^ *Lasiurus blossevillii*	-	SSC	Forests and woodlands up to conifer forests. Roosts primarily in trees and occasionally shrubs.	No roosting habitat present within study area
American badger *Taxidea taxus*	-	SSC	Occurs in dry, open soils in herbaceous, shrub, and forest habitats. Needs friable, uncultivated soil. Preys on rodents.	Friable soils needed for burrowing not present within study area. No burrows observed within Study area.

*Status

Federal:
FE - Federal Endangered
FT - Federal Threatened
State:
CE - California Endangered
CT - California Threatened
CC - California Candidate
CFP - California Fully Protected
SSC - California Species of Special Concern

^ indicates occurrence within 5-mile radius of study area

Special-status plants with some potential to occur

The potential for occurrence of the remaining 10 special-status plants listed in Appendix C is summarized in Table 4 below. These special-status plant species either occur or have some potential to occur within the study area, have not been eliminated from further consideration (see Tables 2a, 2b above), or may require further study. Those that occur within a 5-mile radius of the study area (Figures 5a and 5b) are indicated with a **^^**.

One special-status plant species was observed within the study area – Napa bluecurls **(***Trichostema ruygtii)* and is described following Table 4. The one species with federal status is also described below Table 4.

Table 4.
Special-Status Species Determined to Have ANY POTENTIAL to Occur within the Kitoko Vineyard Study Area

Species	Status* Federal	State	CNPS	Habitat	Potential for Occurrence Within Study Area**
Plants					
Big-scale balsam-root *Balsamorhiza macrolepis*	-	-	1B.2	Cismontane woodland; valley and foothill grassland; [sometimes serpentinite].	Unlikely. Marginal habitat present. Not observed during field survey.

Table 4.
Special-Status Species Determined to Have ANY POTENTIAL to Occur within the Kitoko Vineyard Study Area

Species	Status* Federal	State	CNPS	Habitat	Potential for Occurrence Within Study Area**
Napa false indigo *Amorpha californica napensis*	-	-	1B.2	Broadleaved upland forest (openings); chaparral, cismontane woodland.	Possible. Suitable habitat present. Not observed during field survey.
Napa bluecurls^^ *Trichostema ruygtii*	-	-	1B.2	Chaparral. Cismontane woodland. Lower montane coniferous forest. Valley and foothill grassland. Vernal pools.	Observed. This species was observed within the study area.
Brewer's dwarf flax^^ *Hesperolinon breweri*	-	-	1B.2	Chaparral; cismontane woodland; valley and foothill grassland; [mostly serpentinite].	Possible. Suitable habitat present. Not observed during field survey.
Napa checkerbloom^^ *Sidalcea hickmanii napensis*	-	-	1B.1	Rhyolitic. Chaparral.	Unlikely. Occurs on rocky soils in chaparral. Not observed during field survey.
Keck's checkerbloom^^ *Sidalcea keckii*	-FE	-	1B.1	Cismontane woodland; valley and foothill grassland; [serpentinite].	Unlikely Occurs on grassy slopes, sometimes serpentine. Not observed during field survey.
Jepson's leptosiphon^^ *Leptosiphon jepsonii*	-	-	1B.2	Chaparral; cismontane woodland (usually volcanic).	Possible. Suitable habitat present. Not observed during field survey.
Holly-leaf ceanothus^^ *Ceanothus purpureus*	-	-	1B.2	Chaparral (volcanic).	Unlikely. Occurs on volcanic substrates. Not observed during field survey.
Narrow-flowered California brodiaea^^ *Brodiaea leptandra*	-	-	1B.2	Broadleaved upland forest; chaparral; lower montane coniferous forest.	Unlikely. Usually grows in forest setting on gravelly soils. Not observed during field survey
Heller's bush-mallow *Malacothamnus helleri*			3.3	Chaparral (sandstone). Riparian woodland (gravel).	Unlikely. Site lacks typical habitat components. Not observed during field survey.

Table 4. Special-Status Species Determined to Have ANY POTENTIAL to Occur within the Kitoko Vineyard Study Area					
Species	**Status*** **Federal**	**State**	**CNPS**	**Habitat**	**Potential for Occurrence Within Study Area****

*Status Codes:
Federal
FE Federal Endangered
CNPS
Rank 1B Rare, Threatened, or Endangered in California

**Definitions for the Potential to Occur:
Unlikely: Minimal or marginal quality habitat in the study area.
Possible. Suitable habitat occurs within the study area.
Likely. Study area provides desirable habitat for species and there is a very high probability for its occurrence.
Observed: Species was observed within the study area.

^^ indicates occurrence within 5-mile radius of study area

Napa bluecurls

Napa bluecurls *(Trichostema ruygtii*) is an **annual herb** that is **native** to and endemic to California. It has no federal or state status but is ranked 1B.2 (rare and endangered in California) by CNPS. The plant is endemic to California in the northern San Francisco Bay Area, where it is known from the southern Mayacamas Mountains in Napa County and into western Solano County. It grows in chaparral and openings and adjacent grassland areas. Napa bluecurls typically grows about a foot tall, sometimes up to two feet. The plant is highly aromatic from glandular hairs growing on the stems and leaves. The flowers are a pale lavender in color. Its bloom period is June to October, peaking in late July and August.

During the August 5, 2017 field assessment, Napa bluecurls was observed and mapped in sixteen subpopulations (ranging from 5-100 plants each) in openings in the chaparral in the central portion of the study area (Figure 6). The plants were growing in a fairly distinct microhabitat; in open non-shady areas among annual grasses and forbs. These plants were not observed in early June but were quite distinguishable in early August. Representative ground photos show the plants in their habitat and a closeup of an individual plant are presented in Figure 7.

Plants with significant federal or state status

Keck's checkerbloom (*Sidalcea keckii),* a dicot, is an annual herb that is native and endemic to California. It is federally-listed as endangered and has a CNPS rank of 1B.1 (rare, threatened, or endangered in CA and elsewhere). *Sidalcea keckii* grows up to 35 cm tall and is bristly from top to base. The leaves have blades shallowly edged or deeply divided into lobes; the upper blades with toothed edges. The inflorescence is a dense cluster of a few flowers with deep pink petals, measuring 1-2 cm long. Each flower has a calyx of pointed green sepals, which may be streaked with pink. The bloom period is April and May. This species grows on grassy slopes. It is known from Colusa, Merced, Tulare, Fresno, Napa, Yolo, Glenn, and Solano counties. A survey for Sidalcea was conducted during the two field surveys and no species of Sidalcea were detected.

Salix consulting, inc.

N

0 75 150

Feet

Study Area (±6.2 acres)

Napa Blue Curls (±0.2 acre)

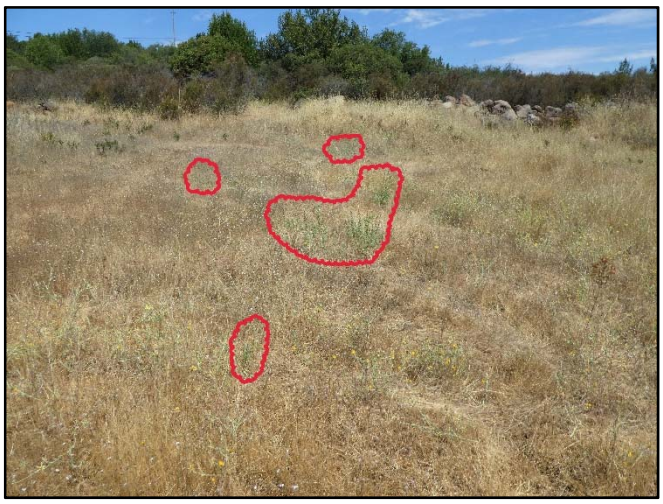
Imagery: 6-2-17 Salix Consulting, Inc.

Figure 6

NAPA BLUE CURLS

Kitoko Vineyards

Napa, Napa County, CA



Napa bluecurls in open grassland area near eastern end of proposed road alignment.
Photo date 8-5-17

Napa bluecurls along proposed road alignment.
Photo date 8-5-17

Close-up of Napa bluecurls.
Photo date 8-5-17

Salix consulting, inc.

Figure 7

NAPA BLUECURLS

Kitoko Vineyards

Napa County, CA

RECOMMENDATIONS

Waters of the United States

No potential waters of the U.S. occur in the study area and thus, no permit is needed from the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act or water quality certification from the California Regional Water Quality Control Board pursuant to Section 401 of the federal Clean Water Act.

Streams, Pond, and Riparian Habitat

No streams, ponds, or riparian habitat is present and thus, a Streambed Alteration Agreement with the California Department of Fish and Wildlife (CDFW) would not be required.

Tree Conservation

It does not appear that any sizable native trees will be removed for the proposed project. Should this change, the Napa County Planning Department should be consulted for guidance.

Special-Status Plants

A survey for potentially-occurring special-status plant species was conducted on June 2 and August 5. Results of the survey are addressed for each species identified as occurring in the project region in Tables 2a, 2b, and 4. Woody species blooming prior to June 2 may have been identifiable, and were surveyed for. Annuals blooming before June 2 may or may not have been detectable.

Suitable habitat is present within the study area for several special-status plants listed in Table 4 above, including Napa false indigo, Brewer's dwarf flax, and Jepson's leptosiphon.

One special-status species, Napa bluecurls, was identified as occurring in the study area. This annual species was not detected in the early June survey but was clearly present in the early August survey. The proposed project will impact some of the plants found, and a mitigation plan will be developed in coordination with the Napa County Planning, building and environmental Services Department.

One species, Keck's checkerbloom, is federally-listed as Endangered. The survey conducted in June and August included this species, and it was not detected.

Several species including Napa false indigo, Brewer's dwarf flax, and Jepson's leptosiphon had potential to occur but were not detected within the study area during the June and August surveys. No other special-status plant species were detected.

Special-Status Wildlife

Nesting Raptors and Migratory Birds

Prior to the Atlas fire, the study area provided marginal nesting habitat for birds of prey (such as hawks and owls) and suitable habitat for other birds protected by the Migratory Bird Treaty Act.

If vegetation removal takes place during the breeding/nesting season (February 1 through August 31), disturbance of nesting activities could occur. Take of any active raptor nest is prohibited under California Fish and Game Code sections 3503, 3503.5, and 3513. To avoid impacts to nesting birds, necessary tree and shrub removal should occur outside of the typical nesting season (February 1 through August 31). If tree or shrub removal occurs at any time during the nesting season, a pre-construction survey should be conducted by a qualified biologist no more than 15 days prior to initiation of proposed development activities. If active nests are found on or immediately adjacent to the site, a nest avoidance plan shall be implemented with approval from the Napa County Planning Department. The avoidance plan shall include appropriate buffers to the nest(s), and a qualified biologist should monitor the nest(s) and project activities to ensure no harm or agitation affects the nestlings. Once the birds have fledged, there is no longer a need for the buffer, and project activities could then proceed. If no nesting is found to occur, necessary tree and shrub removal could then proceed.

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Appendix A.
Plant Species Observed Within the Kitoko Vineyard Study Area

Appendix A

Kitoko Winery - Plants Observed - June & August 2017

Ferns and Allies

Pteridaceae - Brake Family

Pellaea mucronata subsp. mucronata	Bird's-foot cliff-break

Angiosperms - Dicots

Apiaceae (Umbelliferae) - Carrot Family

Daucus pusillus	Rattlesnake weed
Lomatium dasycarpum subsp. dasycarpum	Lace parsnip

Apocynaceae - Dogbane/Milkweed Family

**Nerium oleander*	Oleander

Asteraceae (Compositae) - Sunflower Family

Achillea millefolium	Common yarrow
Achyrachaena mollis	Blow-wives
Baccharis pilularis	Coyote brush
**Carduus pycnocephalus*	Italian thistle
**Centaurea solstitialis*	Yellow starthistle
Holozonia filipes	Whitecrown
**Hypochaeris glabra*	Smooth cat's-ear
**Logfia gallica*	Narrowleaf cottonrose
Madia gracilis	Slender tarweed
**Sonchus asper subsp. asper*	Prickly sow-thistle

Boraginaceae - Borage Family

Eriodictyon californicum	Yerba santa

Brassicaceae (Cruciferae) - Mustard Family

**Brassica nigra*	Black mustard
**Sisymbrium irio*	London rocket
Thysanocarpus curvipes	Lacepod

Caryophyllaceae - Pink Family

**Silene gallica*	Windmill-pink

Convolvulaceae - Morning-Glory Family

**Convolvulus arvensis*	Bindweed

Ericaceae - Heath Family

Arctostaphylos manzanita	Common manzanita

Euphorbiaceae - Spurge Family

Croton setiger	Turkey mullein
**Euphorbia oblongata*	Golden spurge

Fabaceae (Leguminosae) - Legume Family

Acmispon wrangelianus	Chilean trefoil
**Medicago polymorpha*	California burclover
**Vicia sativa subsp. nigra*	Narrow-leaved vetch

Fagaceae - Oak Family

Quercus berberidifolia	Scrub oak
Quercus wislizeni	Interior live oak

Gentianaceae - Gentian Family

Zeltnera muehlenbergii	June centaury

Geraniaceae - Geranium Family

**Erodium cicutarium*	Red-stem filaree
**Geranium dissectum*	Cut-leaf geranium

Hypericaceae - St. John's Wort Family

**Hypericum perforatum subsp. perforatum*	Klamathweed

Lamiaceae (Labiatae) - Mint Family

Trichostema ruygtii	Napa bluecurls

Lauraceae - Laurel Family

Umbellularia californica	California bay

Linaceae - Flax Family

**Linum bienne*	Narrowleaf flax

Myrsinaceae - Myrsine Family

Lysimachia minima	Chaffweed

Oleaceae - Olive Family

**Olea europaea*	Olive

Orobanchaceae - Broomrape Family

Castilleja attenuata	Valley tassels

Phrymaceae - Lopseed Family

Diplacus aurantiacus	Orange bush monkeyflower

Plantaginaceae - Plantain Family

Plantago erecta	California plantain
**Plantago lanceolata*	English plantain

Polemoniaceae - Phlox Family

Navarretia heterodoxa	Navarretia

Polygonaceae - Buckwheat Family

**Rumex acetosella*	Sheep sorrel

Rhamnaceae - Buckthorn Family

Rhamnus crocea	Spiny redberry

Rosaceae - Rose Family

**Rubus armeniacus*	Himalayan blackberry

Rubiaceae - Madder Family

Galium bolanderi	Bollander's bedstraw

Scrophulariaceae - Figwort Family

**Verbascum thapsus*	Woolly mullein

Angiosperms -Monocots

Alliaceae - Onion Family

Allium amplectens	Paper onion

Juncaceae - Rush Family

Juncus bufonius	Toad rush

Liliaceae - Lily Family

Calochortus superbus	Superb mariposa lily

Poaceae (Gramineae) - Grass Family

**Avena fatua*	Wild oat
**Bromus diandrus*	Ripgut grass
**Bromus hordeaceus*	Soft chess
**Cynodon dactylon*	Bermudagrass
**Cynosurus echinatus*	Hedgehog dogtail
Elymus glaucus	Blue wildrye
**Festuca myuros*	Rattail sixweeks grass
**Festuca perennis*	Italian ryegrass
**Gastridium phleoides*	Nit grass
**Phalaris aquatica*	Harding grass
Stipa pulchra	Purple needlegrass

Themidaceae - Brodiaea Family

Brodiaea elegans subsp. elegans	Elegant harvest brodiaea
Triteleia hyacinthina	White triteleia

Appendix B.
Wildlife Species Observed Within the Kitoko Vineyard Study Area

Appendix B

Kitoko Vineyard - Wildlife Observed 6/2/17

Reptiles

Western fence lizard	*Sceloporus occidentalis*

Birds

Turkey vulture	*Cathartes aura*
Red-tailed hawk	*Buteo jamaicensis*
American kestrel	*Falco sparverius*
California quail	*Callipepla californica*
Mourning dove	*Zenaida macroura*
Anna's hummingbird	*Calypte anna*
Northern flicker	*Colaptes auratus*
Western scrub-jay	*Aphelocoma californica*
American crow	*Corvus brachyrhynchos*
Bushtit	*Psaltriparus minimus*
Bewick's wren	*Thryomanes bewickii*
Northern mockingbird	*Mimus polyglottos*
European starling	*Sturnus vulgaris*
Spotted towhee	*Pipilo maculatus*
Brewer's blackbird	*Euphagus cyanocephalus*
Purple finch	*Carpodacus purpureus*
American goldfinch	*Carduelis tristis*

Mammals

Coyote	*Canis latrans*

Appendix C.
Potentially-Occurring Special-Status Plants in the Region of the Kitoko Vineyard Study Area

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Adoxaceae				
Viburnum ellipticum Western viburnum	Fed: - State: - CNPS: Rank 2B.3	May-July	Chaparral; cismontane woodland; lower montane coniferous forest.	None. Site lacks suitable habitat (shaded slopes).
Apiaceae (Umbelliferae)				
Eryngium jepsonii Jepson's coyote thistle	Fed: - State: - CNPS: Rank 1B.2	April-August	Clay. Valley and foothill grassland. Vernal pools.	None. Site lacks wetlands.
Lilaeopsis masonii Mason's lilaeopsis	Fed: - State: CR CNPS: Rank 1B.1	April-October	Marshes and swamps (brackish or freshwater); riparian scrub.	None. Site lacks wetlands.
Asteraceae (Compositae)				
Balsamorhiza macrolepis Big-scale balsam-root	Fed: - State: - CNPS: Rank 1B.2	March-June	Cismontane woodland; valley and foothill grassland; [sometimes serpentinite].	Unlikely. Marginal habitat present. Not observed during field survey.
Calycadenia micrantha Small-flowered calycadenia	Fed: - State: - CNPS: Rank 1B.2	June-September	Chaparral; meadows and seeps; valley and foothill grasslands (roadsides, talus, sometimes serpentine).	None. Site lacks suitable habitat.
Centromadia parryi parryi Pappose tarplant	Fed: - State: - CNPS: Rank 1B.2	May-November	Coastal prairie; meadows and seeps; marshes and swamps; vernally wet grassland (sometimes alkaline).	None. Site lacks suitable habitat (wetland/alkaline).

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Erigeron greenei Narrow-leaved daisy	Fed: - State: - CNPS: Rank 1B.2	May-September	Chaparral (serpentinite).	None. Site lacks suitable soils.
Lasthenia conjugens Contra Costa goldfields	Fed: FE State: - CNPS: Rank 1B.1	March-June	Valley and foothill grassland (mesic); vernal pools.	None. Site lacks wetlands.
Layia septentrionalis Colusa layia	Fed: - State: - CNPS: Rank 1B.2	April-May	Chaparral; cismontane woodland, valley and foothill grassland; [sandy, serpentinite].	None. Site lacks suitable soils.
Micropus amphibolus Mount Diablo cottonweed	Fed: - State: - CNPS: Rank 3.2	March-May	Broad-leaf upland forest; cismontane woodland; valley and foothill grassland.	None. Site lacks suitable habitat (openings on slopes and ridges).
Symphyotrichum lentum Suisun Marsh aster	Fed: - State: - CNPS: Rank 1B.2	August-November	Marshes and swamps (brackish and fresh water)	None. Site lacks wetlands.
Boraginaceae				
Cryptantha dissita Serpentine cryptantha	Fed: - State: - CNPS: Rank 1B.2	April-June	Chaparral (serpentinite).	None. Site lacks suitable soils.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Brassicaceae (Cruciferae)				
Streptanthus hesperidis Jewelflower	Fed: - State: - CNPS: Rank 1B.2	May-July	Serpentinite, rocky. Chaparral (openings). Cismontane woodland	None. Site lacks suitable soils.
Campanulaceae				
Downingia pusilla Dwarf downingia	Fed: - State: - CNPS: Rank 2B.2	March-May	Vernal pools and seasonal wetlands.	None. Site lacks wetlands.
Legenere limosa Legenere	Fed: - State: - CNPS: Rank 1B.1	April-June	Vernal pools and seasonal wetlands.	None. Site lacks wetlands.
Chenopodiaceae				
Extriplex joaqinana San Joaquin spearscale	Fed: - State: - CNPS: Rank 1B.2	April-September	Chenopod scrub; meadows; valley and foothill grassland; [alkaline].	None. Site lacks suitable soils.
Cyperaceae				
Rhynchospora californica California beaked-rush	Fed: - State: - CNPS: Rank 1B.1	May-July	Lower montane conifersous forest; meadows (seeps); marshes and swamps (freshwater).	None. Site lacks wetlands.
Fabaceae (Leguminosae)				
Amorpha californica napensis Napa false indigo	Fed: - State: - CNPS: Rank 1B.2	April-July	Broadleaved upland forest (openings); chaparral, cismontane woodland. 150-2000 m.	Possible.Suitable habitat may occur in chaparral. Not observed during field survey.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Astragalus claranus Clara Hunt's milkvetch	Fed: FE State: CT CNPS: Rank 1B.1	March-May	Cismontane woodland; valley and foothill grassland; [serpentinite, volcanic clay].	None. Site is located above elevational limit of species.
Astragalus tener tener Alkali milkvetch	Fed: - State: - CNPS: Rank 1B.2	March-June	Playas; valley and foothill grassland (adobe clay), vernal pools (alkaline).	None. Site lacks suitable soils.
Lathyrus jepsonii jepsonii Delta tule pea	Fed: - State: - CNPS: Rank 1B.2	May-September	Marshes and swamps (freshwater and brackish).	None. Site lacks wetlands.
Trifolium amoenum Showy Indian clover	Fed: FE State: - CNPS: Rank 1B.1	April-June	Coastal bluff scrub; Valley and foothill grassland (sometimes serpentinite)	None. Occurs below elevation of study area.
Trifolium hydrophilum Saline clover	Fed: - State: - CNPS: Rank 1B.2	April-June	Marshes and swamps; valley and foothill grassland (mesic, alkaline); vernal pools. 0-300 m.	None. Site lacks wetlands.
Juglandaceae				
Juglans hindsii Northern California black walnut	Fed: - State: - CNPS: Rank 1B.1	April-May	Riparian forest; riparian woodland.	None. Site lacks suitable habitat due to lack of moisture. Not observed during field survey.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Lamiaceae (Labiatae)				
Trichostema ruygtii Napa bluecurls	Fed: - State: - CNPS: Rank 1B.2	June-October	• Chaparral Cismontane woodland. Lower montane coniferous forest.Valley and foothill grassland. Vernal pools	Observed. This species was aobserved within the study area.
Liliaceae				
Calochortus pulchellus Mt. Diablo fairy lantern	Fed: - State: - CNPS: Rank 1B.2	April-June	Chaparral; cismontane woodland; valley and foothill grassland.	None. Occurs on shaded, wooded slopes, which are not present in the study area.
Fritillaria pluriflora Adobe-lily	Fed: - State: - CNPS: Rank 1B.2	February-April	Chaparral; cismontane woodland; valley and foothill grassland; [often adobe].	None. Occurs on adobe and serpentine soils.
Limnanthaceae				
Limnanthes vinculans Sebastopol meadowfoam	Fed: FE State: CE CNPS: Rank 1B.1	April-May	Meadows (mesic); vernal pools.	None. Site lacks wetlands.
Linaceae				
Hesperolinon bicarpellatum Two-carpellate western flax	Fed: - State: - CNPS: Rank 1B.2	May-July	Chaparral (serpentinite).	None. Site lacks suitable soils.
Hesperolinon breweri Brewer's dwarf flax	Fed: - State: - CNPS: Rank 1B.2	May-July	Chaparral; cismontane woodland; valley and foothill grassland; [mostly serpentinite].	Possible. Suitable habitat present. Not observed during field survey.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Hesperolinon sharsmithiae Sharsmith's western flax	Fed: - State: - CNPS: Rank 1B.2	May-July	Chaparral (serpentenite).	None. Site lacks suitable soils.
Malvaceae				
Malacothamnus helleri Heller's bush-mallow	Fed: - State: - CNPS: Rank 3.3	May-July	Chaparral (sandstone). Riparian woodland (gravel).	Unlikely. Site lacks typical habitat components. Survey for species did not detect it.
Sidalcea hickmanii napensis Napa checkerbloom	Fed: - State: - CNPS: Rank 1B.1	April-June	Rhyolitic. Chaparral	Unlikely. Occurs on rocky soils in chaparral. Survey for species did not detect it.
Sidalcea hickmanii viridis Marin checkerbloom	Fed: - State: - CNPS: Rank 1B.3	May-June	Chaparral (serpentinite).	None. Site lacks suitable soils.
Sidalcea keckii Keck's checkerbloom	Fed: FE State: - CNPS: Rank 1B.1	April-May	Cismontane woodland; valley and foothill grassland; [serpentinite].	Unlikely. Occurs on grassy slopes, sometimes serpentine. Not observed during field survey.
Orobanchaceae				
Castilleja ambigua meadii Mead's owl's-clover	Fed: - State: - CNPS: Rank 1B.1	April-May	Meadows and seeps; vernal pools [gravelly, volcanic, clay]	None. Site lacks wetlands.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Plantaginaceae				
Penstemon newberryi sonomensis Sonoma beardtongue	Fed: - State: - CNPS: Rank 1B.3	May-July	Chaparral (rocky).	None. Occurs in rocky outcrop areas, generally at higher elevations.
Poaceae (Gramineae)				
Agrostis hendersonii Henderson's bent grass	Fed: - State: - CNPS: Rank 3.2	April-May	Valley and foothill grassland (mesic); vernal pools.	None. Site lacks wetlands.
Polemoniaceae				
Gilia capitata tomentosa Woolly-headed gilia	Fed: - State: - CNPS: Rank 1B.1	May-July	Coastal bluff scrub (rocky, outcrops). 15-155 m.	None. Occurs on sea bluffs, often on serpentine.
Leptosiphon jepsonii Jepson's leptosiphon	Fed: - State: - CNPS: Rank 1B.2	March-May	Chaparral; cismontane woodland (usually volcanic).	Possible. Suitable habitat present. Not observed during field survey.
Navarretia leucocephala bakeri Baker's navarretia	Fed: - State: - CNPS: Rank 1B.1	May-July	Cismontane woodland; lower montane coniferous forest; meadows (mesic); valley and foothill grassland; vernal pools.	None. Site lacks wetlands.
Navarretia leucocephala pauciflora Few-flowered navarretia	Fed: FE State: CT CNPS: Rank 1B.1	June-June	Vernal pools (volcanic ash flow).	None. Site lacks wetlands.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Navarretia rosulata Marin County navarretia	Fed: - State: - CNPS: Rank 1B.2	June-July	Closed-cone coniferous forest; chaparral; [serpentinite].	None. Site lacks suitable soils.
Potamogetonaceae				
Stuckenia filiformis alpina Slender-leaved pondweed	Fed: FSW State: - CNPS: Rank 2B.2	May-July	Marshes and swamps (assorted shallow freshwter).	None. Site lacks wetlands.
Rhamnaceae				
Ceanothus purpureus Holly-leaf ceanothus	Fed: - State: - CNPS: Rank 1B.2	February-April	Chaparral (volcanic).	Unlikely. Occurs on volcanic substrates. Not observed during field survey.
Ceanothus sonomensis Sonoma ceanothus	Fed: - State: - CNPS: Rank 1B.2	February-April	Chaparral (sandy, serpentinite, or volcanic).	None. Site lacks suitable soils.
Themidaceae				
Brodiaea leptandra Narrow-flowered California brodiaea	Fed: - State: - CNPS: Rank 1B.2	May-July	Broadleaved upland forest; chaparral; lower montane coniferous forest. 110-915 m.	Unlikely. Usually grows in forest setting on gravelly soils. Not observed during field survey.

Appendix C

Kitoko Winery - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate
FSS - Forest Service Sensitive
FSW - Forest Service Watchlist

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CSC - California Species of Special Concern

CNPS (California Native Plant Society - List.RED Code):
Rank 1A - Extinct
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 2A- Plants extinct in California, but more common elsewhere
Rank 2B - Plants rare, threatened, or endangered in California, more common elsewhere
Rank 3 - Plants about which more information is needed, a review list
Rank 4 - Plants of limited distribution, a watch list
RED Code
1 - Seriously endangered (>80% of occurrences threatened)
2 - Fairly endangered (20 to 80% of occurrences threatened)
3 - Not very endangered (<20% of occurrences threatened)

Appendix D.
Potentially-Occurring Special-Status Animals in the Region of the Kitoko Vineyard Study Area

Appendix D

Kitoko Vineyard - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Invertebrate			
Vernal pool fairy shrimp *Branchinecta lynchi*	Fed: FT State: - Other: -	Vernal pools and other temporary bodies of water in southern and Central Valley of California. Most common in smaller grass or mud bottomed swales or basalt flow depression pools in unplowed grasslands.	None. No wetlands present within study area.
Conservancy fairy shrimp *Branchinecta conservatio*	Fed: FE State: - Other: -	Endemic to the Central Valley and southern coastal regions of California. Prefers larger, turbid, cool-water vernal pools located in alluvial swales.	None. No wetlands present within study area.
California freshwater shrimp *Syncaris pacifica*	Fed: FE State: CE Other: -	Endemic to Marin, Napa, and Sonoma counties in low gradient streams with moderate to heavy riparian canopy. Needs shallow pools away from the main stream flow. Prefers undercut banks with exposed roots.	None. No wetlands present within study area.
Insects			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	Fed: FT State: - Other: *	Requires host plant, elderberry (Sambucus nigra) for most of its life cycle. Shrubs must have stem diameters at ground level of 1.0 inch or greater and shrubs must be found less than 3,000 feet in elevation.Typically riparian and upland associated.	None. No elderberry shrubs present onsite.
Fish			
Steelhead - Central California Coast ESU *Oncorhynchus mykiss irideus*	Fed: FT State: - Other: -	Central coastal basins from the Russian River, south to Soquel Creek, including San Francisco and San Pablo Bay basins, but excludes the Sacramento-San Joaquin River basins.	None. No streams present onsite.
Delta smelt *Hypomesus transpacificus*	Fed: FT State: CT Other: -	Endemic to the Sacramento-San Joaquin Delta in coastal and brackish waters. Occurs seasonally in Suisun and San Pablo bays. Spawning usually occurs in dead-end sloughs and shallow channels.	None. No streams present onsite.
Longfin smelt *Spirinichus thaleichthys*	Fed: FC State: CSC Other:	Endemic to the lower reaches of the Sacramento-San Joaquin River system. Inhabits open waters in the Delta and Suisun Bay. After spawning, larvae are carried downstream to brackish nursery areas.	None. No streams present onsite.

Appendix D

Kitoko Winery - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Amphibians			
California tiger salamander *Ambystoma californiense*	Fed: FT State: CT Other: -	Occurs in annual grassland habitat (<1500 feet) and occasionally in grassy understory of valley-foothill hardwood habitats where lowland aquatic sites are available for breeding. Breeds primarily in vernal pools.	None. No streams or wetlands present onsite.
California giant salamander *Dicamptodon ensatus*	Fed: - State: SSC Other:	Occurs in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages in Mendocino, Lake, Glenn, Sonoma, Marin, and San Mateo to Santa Cruz counties.	None. No streams or wetlands present onsite.
California red-legged frog *Rana draytonii*	Fed: FT State: SSC Other: -	Occurs in lowlands and foothills in deeper pools and slow-moving streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	None. No streams or wetlands present onsite.
Foothill yellow-legged frog *Rana boylii*	Fed: - State: SSC Other: *	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	None. No streams or wetlands present onsite.
Reptiles			
Western pond turtle *Actinemys marmorata*	Fed: - State: SSC Other: -	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	None. No ponds or other suitable aquatic habitat present onsite.
Birds			
White-tailed kite *Elanus leucurus*	Fed: - State: CFP Other: -	Found in lower foothills and valley margins with scattered oaks and along river bottomlands or marshes adjacent to oak woodlands. Nests in trees with dense tops.	None. No suitable nesting habitat present onsite.
Bald eagle *Haliaeetus leucocephalus*	Fed: - State: CE Other: CFP	Occurs along shorelines, lake margins, and rivers. Nests in large, old-growth or dominant trees with open branches.	None. No suitable nesting habitat present onsite.

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Kitoko Winery - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Swainson's hawk *Buteo swainsoni*	Fed: - State: CT Other: *	Breeds in open areas with scattered trees; prefers riparian and sparse oak woodland habitats. Requires nearby grasslands, grain fields, or alfalfa for foraging. Rare breeding species in Central Valley.	None. No suitable nesting habitat present onsite.
Golden eagle *Aquila chrysaetos*	Fed: - State: CFP Other: -	Found in rolling foothill grassland with scattered trees. Nests on cliffs and in large trees in open areas.	None. No suitable nesting habitat present onsite.
American peregrine falcon *Falco peregrinus anatum*	Fed: - State: CFP Other: *	Nests on cliffs, banks, dunes, mounds, and tall man-made structures.	None. No suitable nesting habitat present onsite.
Burrowing owl *Athene cunicularia*	Fed: - State: SSC Other: *	Found in annual grasslands. Nests in burrows dug by small mammals, primarily ground squirrels.	None. Normally found in non-woody, flat, lowland landscapes. No ground squirrels observed onsite.
Northern spotted owl *Strix occidentalis caurina*	Fed: FT State: CSC Other: -	Dense, old growth, multi-layered, mixed conifer, redwood, and Douglas fir habitats with large trees and snags. Sea level to 7,600 feet.	None. No suitable nesting habitat present onsite.
Bank swallow *Riparia riparia*	Fed: - State: CT Other: *	Colonial nester near riparian and oher lowland habitats. Requires vertical banks or cliffs with fine-textured, sandy soils near streams, rivers, and lakes.	None. No suitable nesting habitat present onsite.
Saltmarsh common yellowthroat *Geothlypsis trichas sinuosa*	Fed: - State: CSC Other:	Resident of freshwater and salt water marshes in the San Francisco Bay region. Requires thick, continuous cover for foraging and tall grasses, tules, or willows for nesting.	None. No suitable nesting habitat present onsite.
Yellow-breasted chat *Icteria virens*	Fed: - State: CSC Other: -	Found in riparian thickets of willow and orther brushy vegetation along watercourses. Nests in low, dense riparian vegetation and trees.	None. No suitable nesting habitat present onsite (no riparian habitat).

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Kitoko Winery - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Tricolored blackbird *Agelaius tricolor*	Fed: - State: CE Other: -	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	None. No suitable nesting habitat present onsite.
Mammals			
Suisun shrew *Sorex ornatus sinuosus*	Fed: - State: CSC Other:	Inhabits tidal marshes in the northern end of San Pablo and Suisun Bays. Requires dense, low cover of plants, driftwood, and other litter above the mean high tide line.	None. No suitable habitat (wetlands) onsite.
Western red bat *Lasiurus blossevillii*	Fed: - State: SSC Other: *	Forests and woodlands up to conifer forests. Roosts primarily in trees and occasionally shrubs.	None. No suitable roosting habitat present.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Fed: - State: - Other: SSC	Found in a variety of habitats. Most common in mesic sites with forest or woodland component. Roosting and maternity sites in caves, mines, lava tubes, tunnels, and buildings. Gleans insects from brush or trees and feeds along habitat edges.	None. No suitable roosting habitat present.
Pallid bat *Antrozous pallidus*	Fed: - State: SSC Other: *	Occurs in grasslands, woodlands, deserts & urban habitats; open habitat required for foraging. Common in dry habitats with rocky outcrops, cliffs, and crevices for roosting. Roosts include caves, mines, bridges & occasionally hollow trees, buildings.	None. No suitable roosting habitat present.
American badger *Taxidea taxus*	Fed: - State: CSC Other: -	Occurs in dry, open soils in herbaceous, shrub, and forest habitats. Needs friable, uncultivated soil. Preys on rodents.	None. No suitable habitat present onsite.

Appendix D

Kitoko Winery - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site

***Status**

Federal:	State:	Other:
FE - Federal Endangered	CE - California Endangered	Some species have protection under the other designations, such as the California Department of Forestry Sensitive Species, Bureau of Land Management Sensitive Species, U.S.D.A. Forest Service Sensitive Species, and the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. Certain areas, such as wintering areas of the monarch butterfly, may be protected by policies of the California Department of Fish and Game.
FT - Federal Threatened	CT - California Threatened	
FPE - Federal Proposed Endangered	CR - California Rare	
FPT - Federal Proposed Threatened	CC - California Candidate	
FC - Federal Candidate	CFP - California Fully Protected	
FPD - Federal Proposed for Delisting	CSC - California Species of Special Concern	WL - CDFG Watch List