

EXHIBIT B-1

**BIOLOGICAL RESOURCE ASSESSMENT
WITH BOTANICAL and WILDLIFE HABITAT SURVEYS
and
DELINEATION OF WATERS OF THE U.S.
for the
Clos Pegase Winery-Mitsuko's Vineyard Project
Assessor Parcel Number 047-280-017
4189 Withers Road, Napa, California**

September 4, 2019

**Prepared by
Northwest Biosurvey**



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1.0 PROJECT DESCRIPTION

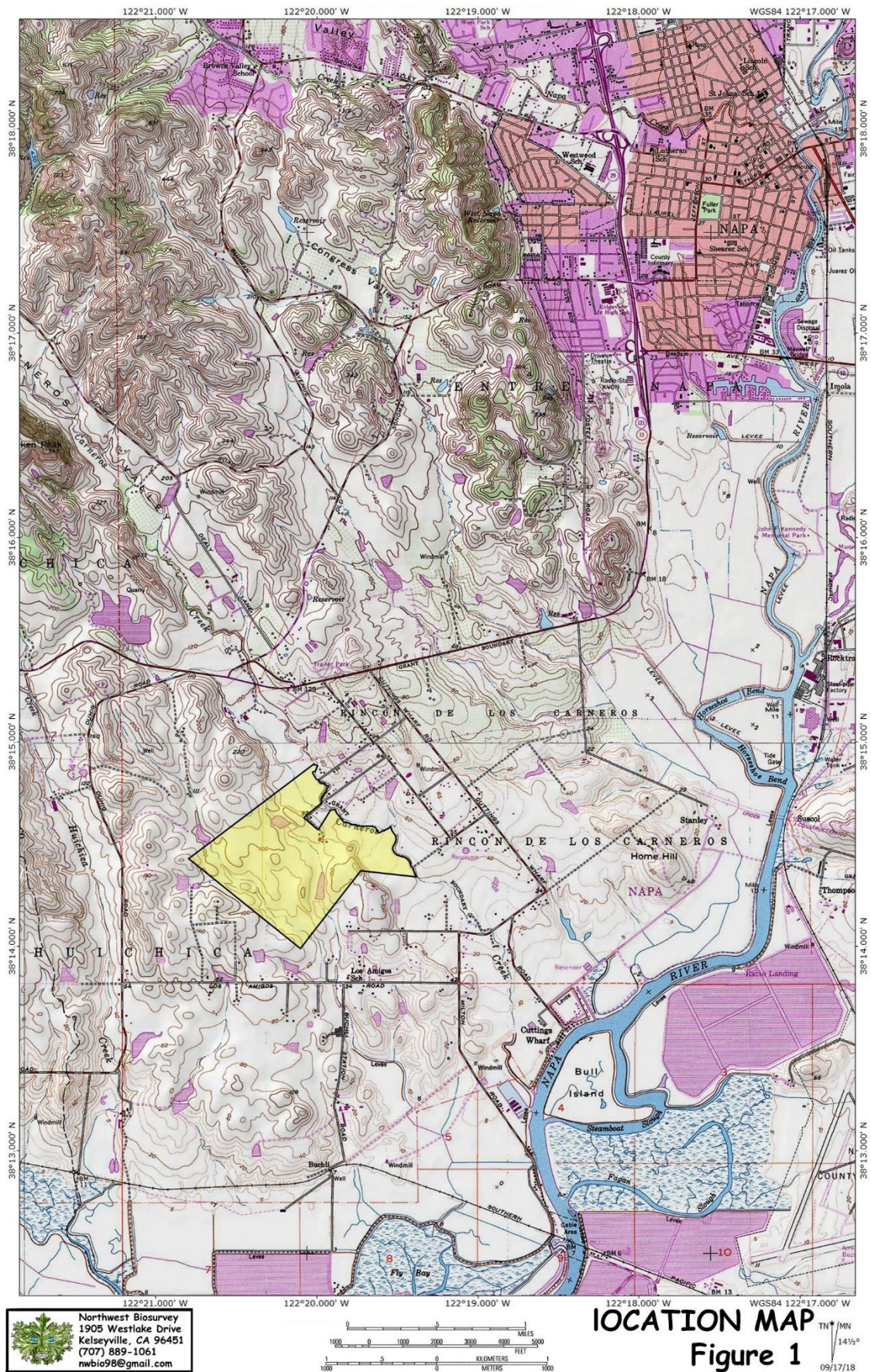
1.1 Proposed Project: This survey covers a proposed expansion of an existing vineyard within a 370-acre parcel. The larger property is currently developed with vineyards and ponds. The local permitting agency is requesting completion of a botanical survey and assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for development of additional vineyards on the property.

The initial phase of this assessment evaluates the potential of the project area to contain sensitive plant and wildlife habitat. The second phase consists of a floristic-level botanical survey listing all plant taxa¹ on the property. The assessment will determine whether the property contains sensitive plants or potentially contains sensitive wildlife requiring mitigation under the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). As used here, the terms sensitive plant or wildlife includes all state or federal rare, threatened, or endangered species and all species listed in the California Natural Diversity Database (CNDDB) list of "Special Status Plants, Animals and Natural Communities". A survey for tri-colored blackbirds and burrowing owls was also conducted for this project. The results of the surveys are provided in Section 5.0.

Due to the fact that wetland delineations are prepared with a standard format for U.S. Army Corps of Engineers review, the delineation is provided in its own section. The delineation and findings are provided in Section 6.0. One section is added to this assessment to meet Napa County environmental review policy. This is the "Conformance with the Napa County Baseline Data Report" (Section 7.0). Since no trees are proposed to be removed for the development, a woodland analysis was not conducted.

1.2 Location: The property is located at 4189 Withers Road, Napa, Calif. (APN 047-280-017; T05N R04W, Cuttings Wharf, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.

¹ Many sensitive plants and wildlife are subspecies or varieties which are taxonomic subcategories of species. The term "taxa" refers to species and their sub-specific categories.



2.0 ASSESSMENT METHODOLOGY

The basis of the biological resource assessment is a comparison of existing habitat conditions within the project boundaries to the geographic range and habitat requirements of sensitive plants and wildlife. It includes all sensitive species that occupy habitats similar to those found in the project area and whose known geographic ranges encompass it. The approach is conservative in that it tends to over-estimate the actual number of sensitive species potentially present. The analysis includes the following site characteristics:

- Location of the project area with regard to the geographic range of sensitive plant and wildlife species
- Location(s) of known populations of sensitive plant and wildlife species as mapped in the California Natural Diversity Database (CNDDDB)
- Soils of the project area
- Elevation
- Presence or absence of special habitat features such as vernal pools and serpentine soils
- Plant communities existing within the project area

In addition to knowledge of the local plants and wildlife, the following computer databases were used to analyze the suitability of the site for sensitive species:

- California Department of Fish and Wildlife (CDFW), *California Natural Diversity Database (CNDDDB)*; RareFind 5, 2018
- California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (2018 edition)
- California Department of Fish and Wildlife, *California Wildlife Habitat Relationships System (CWHR)*, Version 9.0
- Napa County *Baseline Data Report* (2005)

The **CNDDB** and **RareFind 5** databases consist of maps and records of all known populations of sensitive plants and wildlife in California. This data is continually updated by the CDFW with new sensitive species population data.

The **CNPS** database produces a list of sensitive plants potentially occurring at a site based on the various site characteristics listed above. While use of the CNPS inventory does not in itself eliminate the need for an in-season botanical survey, it can, when used in

conjunction with other information, provide a very good indication of the suitability of a site as habitat for sensitive plant species.

The **CWHR database** operates on the same basis as the CNPS inventory. Input includes geographic area, plant community (including development stage), soil structure, and special features such as presence of water, snags, cover, and food (fruit, seeds, insects, etc.).

The **Baseline Data Report** was produced for Napa County as part of the technical background documentation for the county's general plan update. It defines biotic communities considered sensitive in Napa County, identifies wildlife movement corridors, and reproduces data contained in the CNDDDB.

2.1 Botanical Survey Methods: An in-season floristic-level survey was conducted for the project in 2018. CNDDDB information and maps for the Cuttings Wharf quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer et al. 2009) as modified by the California Native Plant Society (CNPS), and mapped on a 1"=400' aerial photo. Vegetation community names are based on an assessment of dominant cover species.

Plants occurring on the site were identified using *The Jepson Manual of Higher Plants of California*. Where necessary, species names were updated based on the 6th edition, *CNPS Inventory of Rare and Endangered Plants of California*. A map of the vegetation types is provided in **Figure 2**.

2.2 Wildlife Survey Methods: The proposed vineyard blocks and adjacent ponds were surveyed for the presence of tricolored blackbirds and burrowing owls, as requested by Napa County staff. Tricolored blackbirds were surveyed at the pond at the south end of the property; burrows potentially used by burrowing owls were searched for in the grasslands.

2.3 Delineation Methods: The delineation was conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Arid West 2008 Supplement*. Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement*, 1973, and Mason's *Flora of the Marshes of California*, 1957, were used as supplemental texts.

2.4 Survey Dates: Site visits for botanical surveys, wildlife surveys, the delineation, and mapping were made by Northwest Biosurvey staff on April 13 and July

12, 2018. Due to comparatively late onset of the spring bloom in 2018, all potentially present sensitive plant species in this area would have been identifiable on these dates.

2.5 Biological Assessment Staff: Field surveys, plant taxonomy, and the delineation were conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky has over 35 years of experience as a biologist in the government and private sectors.

Mr. Zalusky was assisted with mapping by Leigh Zalusky. Leigh Zalusky has a Bachelor of Science Degree in Computer Engineering from the University of California, Davis. He has also developed extensive skills in plant taxonomy and ecology while managing and assisting in the development of the Seigler Valley Wetland Mitigation Bank and while assisting Northwest Biosurvey staff in field surveys and vegetation mapping over the past three years.

Field surveys, database review, and report preparation were conducted with the assistance of Danielle Zalusky, Northwest Biosurvey principal planner. Ms. Zalusky has 15 years of experience as a planner in local government and the private sector and 16 years in field biology. She has a Bachelor of Arts Degree all course work toward an M.A. Degree in Rural and Town Planning from Chico State University. Prior to joining Northwest Biosurvey in 2002, Ms. Zalusky was a senior planner for the Lake County Community Development Department.

3.0 SITE CHARACTERISTICS

3.1 Topography and Drainage: The Mitsuko's Vineyard property is located within gently sloping terrain at the base of the Mayacamas Range along the southwestern edge of the Napa Valley. Elevations here range from approximately 180 feet msl (mean sea level) at the western corner to 40 feet msl along Carneros Creek at the eastern corner. Drainage is from west to east into Carneros Creek, which defines the property's northeastern boundary. Carneros Creek drains southeast for approximately 1½ miles across the Napa Valley to the Napa River. The topography is shown in **Figure 1**.

3.2 Soils: The property contains the following soil types:

- **Diablo clay, 15-30% slopes:**

Diablo soils are on complex undulating, rolling to steep uplands with slopes of 5 to 50 percent. These soils formed in residuum weathered from shale, sandstone, and consolidated sediments with minor areas of tuffaceous material. The soil is well drained; runoff is slow when the soil is dry, and medium to rapid when soils are moist; Surface runoff is slow. Natural vegetation includes a cover of annual grasses and forbs. This soil occurs on the northwest portion of the survey area.

- **Haire clay loam, 2-9% slopes:**

This gently sloping to moderately sloping soil is on old terraces and alluvial fans. Included with this soil in mapping were small areas of Clear Lake, Diablo, Dibble, and Fagan soils. Runoff is slow to medium. This soil consists of moderately well drained soils on old terraces and alluvial fans. These soils formed from alluvium derived from sedimentary rock. The vegetation in uncultivated areas consists of annual grasses and forbs. The hazard of erosion is slight. Permeability is very slow. This soil occurs on the southeast portion of the survey area.

3.3 Vegetation Types: The entire parcel was mapped for vegetation in order to provide project context. The project contains eight plant communities or vegetation types based on or derived from the "Standardized Classification" scheme described in the California Native Plant Society (CNPS) *A Manual of California Vegetation*. These vegetation types and other cover types are listed in **Table 1**. They are described below and shown in the vegetation map provided in **Figure 2**.

- **Coast Live Oak Woodland:**

This community occurs as a dense riparian cover of large mature trees along the banks of the larger waterways. The upper canopy includes scattered Oregon white

oak (*Quercus garryana* var. *garryana*), with a lower canopy of big-leaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), red willow (*Salix laevigata*), and California buckeye (*Aesculus californica*). Brown dogwood (*Cornus glabrata*), poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), and Himalayan blackberry (*Rubus armeniacus*) make up the shrub layer. Robert's geranium (*Geranium robertianum*) grows in dense, homogenous patches interspersed with patches of leaf litter, along with goose grass (*Galium aparine*) and California manroot (*Marah fabaceus*), which occasionally winds through the lower tree canopy.

In some places, coast live oak is present as small groupings of 2-3 trees to 35-feet tall. The shrub layer in these locations consists of scattered California wild rose (*Rosa californica*), poison oak, and Himalayan blackberry, with a ground cover of leaf litter. In one location, the community consists of a dense stand of coast live oaks. Edges of the oak groupings support scattered coyote brush. Ground cover here consists of the species found in the surrounding grasslands.

- **Red Willow Thicket:**

This community forms a scattered narrow band along the banks of the impoundments and as scattered thickets along waterways. Red willow is dominant and Fremont cottonwood (*Populus fremontii* var. *fremontii*) is sub-dominant. The community generally lacks a shrub layer although in some locations there are dense growths of Himalayan blackberry.

A dense narrow band of Bulrush-Cattail Marsh occupies this community's pondward side. Its upland side is dominated by grassland containing a mix of orchard grass (*Dactylus glomerata*), ripgut brome (*Bromus diandrus*), perennial ryegrass (*Festuca perennis*), and other grasses and forbs listed in the Wild Oat Grassland community below.

- **Eucalyptus Grove:**

This grove consists of small scattered copses of 2 to 8 mature bluegum eucalyptus (*Eucalyptus globulus*) trees. The community lacks a shrub layer. Ground cover is the surrounding grassland.

- **Coyote Brush Shrub Alliance:**

This community consists of a dense homogenous stands of coyote brush. The community edges support the grassland of the surrounding area. Within the community, the ground cover is leaf litter.

- **Blackberry Bramble:**

The banks of some of the waterways near ponds are occasionally covered by a dense homogenous cover of Himalayan blackberry.

- **Bulrush-Cattail Marsh:**

Bulrush-Cattail Marsh occurs as narrow bands around ponds or along drainages adjacent to ponds. Bulrush (*Scirpus acutus*) typically occurs along the deeper ponded edge while narrow-leaf cattail (*Typha angustifolia*) extends as a narrow bank along the outer banks.

- **Wild Oat Grassland:**

This extensive grassland is dominated primarily by introduced grasses and forbs. Wild oat (*Avena barbata*) and ripgut brome appear to be the dominant species. Perennial ryegrass, orchard grass, cut-leaved geranium (*Geranium dissectum*), Brewers bittercress (*Cardamine breweri*), curly dock (*Rumex crispus*), and bristly ox tongue (*Helminthotheca echoides*) are also prominent in the grassland.

- **Duckweed Bloom:**

A community of duckweed (*Lemna minuta*) covers a large portion of the open water habitat within the impoundments.

- **Vineyard:**

Existing vineyard occupies most of the property east of the proposed vineyard blocks.

- **Open Water:**

"Open Water" describes the three impoundments or ponds within the parcel.

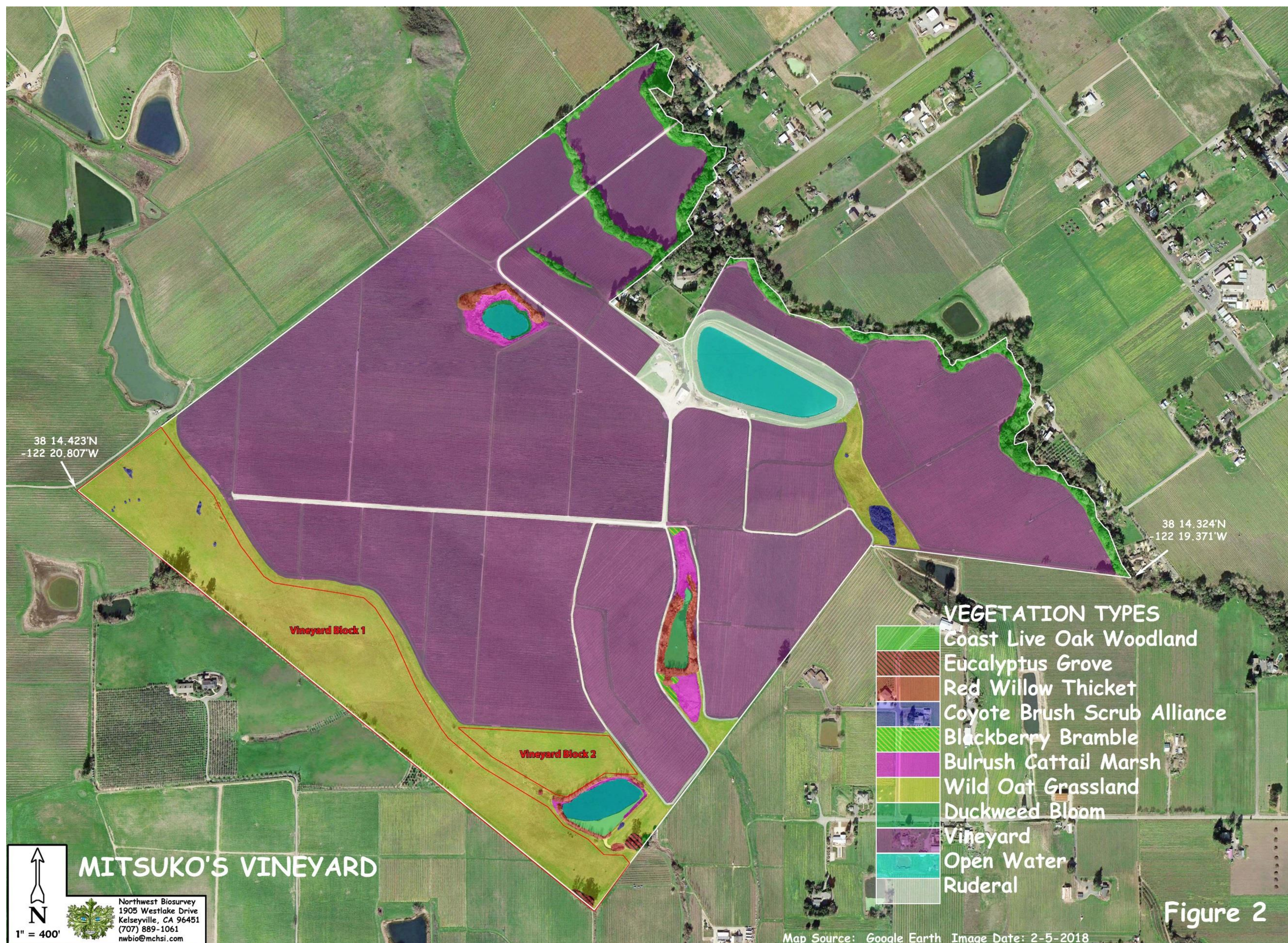
- **Ruderal:**

This describes manmade development such as structures, road, driveways, etc. not otherwise described above.

TABLE 1. PLANT COMMUNITIES AND OTHER COVER TYPES PRESENT

COVER TYPE	Total Acres of Cover Type on Property	Percent of Property Supporting Cover Type	Acres of Cover Type in Potential Vineyard Blocks		Total Acres of Cover Types in Vineyard Blocks	Percent of Cover Types in Vineyard Blocks
			VB 1	VB 2		
Coast Live Oak Woodland	10.90	2.94	0.00	0.00	0.00	0.00
Red Willow Thicket	3.40	0.92	0.00	0.00	0.00	0.00
Eucalyptus Grove	0.35	0.09	0.15	0.00	0.15	42.86
Coyote Brush Shrub Alliance	0.79	0.21	0.13	0.00	0.13	16.46
Blackberry Bramble	0.29	0.08	0.00	0.00	0.00	0.00
Bulrush-Cattail Marsh	3.42	0.92	0.00	0.00	0.00	0.00
Wild Oat Grassland	59.81	16.15	40.22	6.20	46.42	77.61
Duckweed Bloom	2.04	0.55	0.00	0.00	0.00	0.00
Vineyard	264.11	71.32	0.00	0.00	0.00	0.00
Open Water	9.43	2.55	0.00	0.00	0.00	0.00
Ruderal	15.80	4.27	0.00	0.00	0.00	0.00
Total Acres of Cover Type	370.34	100.00	40.50	6.20	46.70	12.61*

*Bottom Right Cell: Percent of Property occupied by proposed new vineyard blocks



4.0 PRE-SURVEY RESEARCH RESULTS

4.1 CNPS Electronic Inventory Analysis: A California Native Plant Society (CNPS) analysis was conducted for all plants with federal and state regulatory status, and all non-status plants on the CNPS Rare Plant Ranks 1B through 4. The query included all plants within this region of Napa County occurring within the plant communities identified on the project site. The inventory lists species potentially occurring at the site; these are listed in **Table 2**. These species were included in the list of potentially sensitive species specifically searched for during field surveys.

Note: *The CNPS list is used to broaden the list of sensitive species considered during the subsequent field surveys; however, it must be used with discretion because the database search does not allow fine-tuning for specific soil types or for many specific habitats required by sensitive plant taxa (e.g. vernal pools or serpentine soils). Consequently, the CNPS list generated for a site may include several taxa for which the required habitat is not present.*

4.2 California Natural Diversity Database: The California Natural Diversity Database (CNDDDB) and CDFW RareFind 5 data and maps for the Cuttings Wharf 7½' quadrangle map were reviewed for this project. **Table 3** presents a list of sensitive plant and wildlife species known to occur within the quadrangle. In addition to listing the species present within the quadrangle, the table provides a brief descriptor of the habitat requirements and blooming season, along with an assessment of whether the project area contains the necessary habitat requirements for each species. **Appendix A** at the end of this report lists the species within the nine quadrangles in the vicinity of this property.

TABLE 2. CALIFORNIA NATIVE PLANT SOCIETY'S INVENTORY OF RARE AND ENDANGERED PLANTS

Selected CNPS Plants by Scientific Name:

Mitsuko's Vineyard Project

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	Fabaceae	annual herb	1B.2	None	None	Mar-Jun	Playas, valley and foothill grassland (adobe clay), Vernal pools
<i>Carex lyngbyei</i>	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	2B.2	None	None	Apr-Aug	Marshes and swamps (brackish or freshwater)
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	4.2	None	None	Mar-Aug	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools margins
<i>Chloropyron molle</i> ssp. <i>molle</i>	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	CR	FE	Jun-Nov	Marshes and swamps (coastal salt)
<i>Downingia pusilla</i>	dwarf downingia	Campanulaceae	annual herb	2B.2	None	None	Mar-May	Valley and foothill grassland (mesic), Vernal pools
<i>Eleocharis parvula</i>	small spikerush	Cyperaceae	perennial herb	4.3	None	None	(Apr)Jun-Aug(Sep)	Marshes and swamps
<i>Extriplex joaquinana</i>	San Joaquin spearscale	Chenopodiaceae	annual herb	1B.2	None	None	Apr-Oct	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Asteraceae	annual herb	1B.1	None	FE	Mar-Jun	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	Fabaceae	perennial herb	1B.2	None	None	May-Jul (Aug-Sep)	Marshes and swamps (freshwater and brackish)
<i>Legenere limosa</i>	legenere	Campanulaceae	annual herb	1B.1	None	None	Apr-Jun	Vernal pools
<i>Lessingia hololeuca</i>	woolly-headed lessingia	Asteraceae	annual herb	3	None	None	Jun-Oct	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	1B.1	CR	None	Apr-Nov	Marshes and swamps (brackish or freshwater), Riparian scrub
<i>Polygonum marinense</i>	Marin knotweed	Polygonaceae	annual herb	3.1	None	None	(Apr)May-Aug(Oct)	Marshes and swamps (coastal salt or brackish)
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	4.2	None	None	Feb-May	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools
<i>Symphotrichum lentum</i>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	1B.2	None	None	(Apr)May-Nov	Marshes and swamps (brackish and freshwater)
<i>Trifolium amoenum</i>	two-fork clover	Fabaceae	annual herb	1B.1	None	FE	Apr-Jun	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentine)
<i>Trifolium hydrophilum</i>	saline clover	Fabaceae	annual herb	1B.2	None	None	Apr-Jun	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools

KEY FOR TABLE 2:

CNPS Rare Plant-Threat Rank Definitions:

CRPR = California Rare Plant Rank

1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California

1B.2 = Rare, threatened, or endangered in California and elsewhere; fairly threatened in California

1B.3 = Rare, threatened, or endangered in California and elsewhere; not very threatened in California

2A = Presumed extinct in California, but extant elsewhere

2B.1 = Rare, threatened, or endangered in Calif., but more common elsewhere; seriously threatened in Calif.

2B.2 = Rare, threatened, or endangered in Calif., but more common elsewhere; fairly threatened in Calif.

2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.

3 = Plants about which we need more information (Review List)

3.1 = Plants about which we need more information (Review List); seriously threatened in California

3.2 = Plants about which we need more information (Review List); fairly threatened in California

3.3 = Plants about which we need more information (Review List); not very threatened in California

4.1 = Plants of limited distribution (watch list); seriously threatened in California

4.2 = Plants of limited distribution (watch list); fairly threatened in California

4.3 = Plants of limited distribution (watch list); not very threatened in California

State and Federal Status:

CESA = California Endangered Species Act

FESA = Federal Endangered Species Act

CR = State Rare

CT = State Threatened

SSC = CDFW Species of Special Concern

WL = CDFW Watch List

FT = Federal Threatened

CE = State Endangered.

CD = State Delisted

FP = CDFW Fully Protected

FE = Federal Endangered

FD = Federal Delisted

TABLE 3. CNDDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE CUTTINGS WHARF, CALIF. 7½' QUAD.

Habitat Type		Habitat Present
<i>Coastal Brackish Marsh</i>		No
<i>Northern Coastal Salt Marsh</i>		No
<i>Northern Vernal Pool</i>		No

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	Alkali playa, valley and foothill grassland (adobe clay), vernal pools, wetland/alkaline; --/--/1B.2	March-June ann. herb	Habitat not present
<i>Carex lyngbyei</i>	Lyngbye's sedge	Marshes & swamps, wetlands/brackish or freshwater; - -/--/2B.2	July per. herb	Habitat not present
<i>Chloropyron molle</i> ssp. <i>molle</i>	soft salty bird's-beak	Marshes & swamps (coastal salt), salt marsh, wetlands; FE/SR/1B.2	July-Nov. ann. herb	Habitat not present
<i>Downingia pusilla</i>	dwarf downingia	Valley & foothill grassland (mesic), vernal pools; --/-- /2B.2	March-May ann. herb	Habitat not present
<i>Etriplex joaquiniana</i>	San Joaquin spearscale	Chenopod scrub, meadows & seeps, alkali playas, valley & foothill grassland/alkaline; --/--/1B.2	April-Oct. ann. herb	Habitat not present
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Cismontane woodland, alkali playas, valley & foothill grassland, vernal pools, wetlands; FE/--/1B.1	March-June ann. herb	Habitat not present
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	Marshes & swamps (freshwater and brackish); --/-- /1B.2	May-Sept. per. herb	Habitat not present
<i>Legenere limosa</i>	legenere	Vernal pools, wetlands; --/--/1B.1	April-June ann. herb	Habitat not present
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	Marshes & swamps (brackish or freshwater), riparian scrub, wetlands/tidal zones; --/SR/1B.1	April-Nov. rhizom. herb	Habitat not present
<i>Polygonum marinense</i>	Marin knotweed	Marshes & swamps (coastal salt or brackish); --/--/3.1	Usually May- Oct.; ann. herb	Habitat not present
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	Marshes and swamps (brackish and freshwater); --/-- /1B.2	May-Nov. per. herb	Habitat not present
<i>Trifolium amoenum</i>	two-fork clover	Coastal bluff scrub, valley & foothill grassland; sometimes serpentinite; FE/--/1B.1	April-June ann. herb	Poor habitat present
<i>Trifolium hydrophilum</i>	saline clover	Marshes & swamps, valley & foothill grassland, vernal pools; --/--/1B.2	April-June ann. herb	Habitat not present

*See CNPS list for key

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Vernal pools and similar ephemeral wetlands, including mud-bottomed pools, roadside ditches, stock ponds; G3	year-round	Poor habitat present
<i>Syncaris pacifica</i>	California freshwater shrimp	Endemic to Marin, Napa, Sonoma Counties. Vernal pools, low elevation, low gradient streams with moderate to heavy riparian cover; FE/SE/G1/S1	year-round	Habitat not present
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	Usually estuarine, dead-end sloughs, larger rivers, may occur in smaller streams; tolerates brackish water. Formerly in lakes and rivers in Central Valley but now only in Delta, Suisun Bay and marshes; GNR/S3	year-round	Habitat not present
<i>Spirinchus thaleichthys</i>	logfin smelt	Aquatic: open waters of estuary, middle or bottom of water. Anadromous; SSC/FC/ST/G5/S1	year-round	Habitat not present
<i>Hypomesus transpacificus</i>	Delta smelt	Estuarine, dead-end sloughs, river-mouth. Needs freshwater flows for rearing habitat; G1/S1	year-round	Habitat not present
<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead-Central California Coast DPS	Small cool fast-flowing tributary streams with gravel beds. Steelhead are anadromous species that require streams that are contiguous with the ocean. Russian River so. to Soquel Creek and to no. of Pajaro River, San Francisco and San Pablo bay basins; FT/G5/S2S3	migratory	Potential habitat seasonally present within the parcel
<i>Emys marmorata</i>	western pond turtle	Aquatic turtle found in ponds, lakes, rivers, creeks, marshes & irrigation ditches with abundant vegetation and rocky or muddy bottoms; In woodland, forest, & grasslands; SSC/G3G4/S3	year-round	Potential habitat present in ponds and seasonally along streams
<i>Aquila chrysaetos</i>	golden eagle	Secluded cliffs with overhanging ledges and large trees near open terrain; SFP/WL/G5/S3	sometimes migratory	Poor habitat present
<i>Buteo regalis</i>	ferruginous hawk	Isolated perch near open grasslands, low foothills; WL/G4/S3S4	sometimes migratory in winter	Potential habitat present
<i>Buteo swainsoni</i>	Swainson's hawk	Grasslands with scattered trees, small groves of trees in riparian areas and oak savanna, cultivated areas; ST/G5/S2	migratory	Potential habitat present in vineyard blocks
<i>Circus cyaneus</i>	northern harrier	Coastal salt and freshwater marshes, meadows, grasslands near wetlands; nests in brush on ground; SSC/G5/S3	migratory	Poor habitat present

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Athene cunicularia</i>	burrowing owl	Valley & foothill grassland, coastal prairie and scrub: Nests are in abandoned burrows dug by ground squirrels, foxes, etc. in open short grasslands; SSC/G4/S3	sometimes migratory in winter	Habitat not present
<i>Agelaius tricolor</i>	tricolored blackbird	Fresh emergent wetland (marshes) with cattails, tules, sedges. Largely endemic to California; SSC/SCE/G2G3/S1S2	year-round	Good habitat present in tule-cattail marshes
<i>Hydroprogne caspia</i>	Caspian tern	Freshwater lakes and marshes, brackish or saltwater estuaries and bays. Nests on sandy or gravelly beaches inland and along coast; G5/S4	migratory	Habitat not present
<i>Laterallus jamaicensis coturniculus</i>	California black rail	Saline and freshwater marshes, wet meadows. Needs dense vegetation for nesting; SFP/ST/G3G4/S1	year-round	Habitat not present
<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail (formerly California clapper rail)	Saltwater and brackish marshes traversed by tidal sloughs near San Francisco Bay. Eats clams, crabs, spiders in mud. Nests usually made of pickleweed; FE/SE/G5/1	year-round	Habitat not present
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	Freshwater and saline emergent wetlands of San Francisco Bay area)/needs tall continuous vegetation for foraging and breeding; SSC/G5/S2	year-round	Saltmarsh habitat not present
<i>Riparia riparia</i>	bank swallow	Riparian scrub or woodland. Colonial: Nests are in steep sand, dirt, or gravel banks, near flowing water; ST/G5/S2	migratory	Poor habitat present
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Sandy beaches, salt or mud flats, shores of large alkali lakes/sandy, gravelly, or friable soils for nesting; FT/G3/S2S3	may be migratory	Habitat not present
<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	Dense willow thickets, saline & fresh emergent wetland. Salt marshes on north side of San Francisco/San Pablo Bays; SSC/G5/S2	year-round	Saltmarsh habitat not present
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	Mainly found in Suisun Bay area and emergent wetlands of San Francisco Bay: Brackish marshes. Nests on ground or in herbaceous vegetation such as pickleweed; FE/SE/SFP/G1G2/S1S2	year-round	Habitat not present
<i>Sorex ornatus sinuosus</i>	Suisun shrew	Tidal marshes bordering northern shores of Suisun and San Pablo Bays. Foraging and nesting require dense low cover and driftweed above tideline; G5/S1S2	year-round	Habitat not present

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Antrozous pallidus</i>	pallid bat	Open, dry habitats, forest habitats, in caves, tunnels, buildings, bridges; sensitive to human disturbance; SSC/G5/S3	year-round	Poor habitat within vineyard blocks
<i>Taxidea taxus</i>	American badger	Dryer open stages of shrub, forest, & herbaceous habitats. Needs friable soils for burrows and open uncultivated ground; SSC/G5/S3	year-round	Poor habitat present

KEY FOR TABLE 3:

SE/ST/SD=State Endangered/Threatened/Delisted

SC/SCT/SCD/SCE=State Candidate for Listing/Threatened/Delisting/Endangered

SSC=CDFW Species of Special Concern

SFP=CDFW Fully Protected

WL=CDFW Watch List

FE/FT/FD=Federal Endangered/Threatened/Delisted

FPE/FPT/FPD/FP=Federal Proposed Endangered/Threatened/Delisting

FC=Federal Candidate

G1/S1 = Global/State Critically Imperiled

G2/S2 = Global/State Imperiled

G3/S3 = Global/State Vulnerable

G4/S4 = Global/State Apparently Secure

G5/S5 = Global/State Secure

SNR = Not yet assessed

4.3 Wildlife Habitat Analysis Results: The California Wildlife Habitat Relationships analysis listed a large number of wildlife species as potentially occurring on the site based on the geographic location and wildlife habitats present. This list is included as **Appendix B**.

4.4 Wildlife Assessment: Based on the pre-survey research conducted for this study, a total of 27 sensitive wildlife species need to be accounted for within the project area. These include the species identified as present within the Cuttings Wharf quadrangle by the CNDDDB and listed in Table 3. White-tailed kite, yellow warbler, and yellow-breasted chat have been added based on the presence of potential habitat on the property. Accepted protocol requires that all CNDDDB species in the surrounding U.S.G.S. quadrangle be discussed even though suitable habitat may not occur on the site.

A number of species are listed in the Cuttings Wharf quadrangle are endemic to the salt marshes, sloughs, and bays in the North Bay Area; this quadrangle includes areas adjacent to the Napa River and its associated sloughs and marshes. The proposed vineyard blocks are not located within these sensitive areas. As a result, the following species would not be present in the proposed vineyard area:

- **Sacramento splittail (*Pogonichthys macrolepidotus*)**
- **Logfin smelt (*Spirinchus thaleichthys*)**
- **Delta smelt (*Hypomesus transpacificus*)**
- **Caspian tern (*Hydroprogne caspia*)**
- **California black rail (*Laterallus jamaicensis coturniculus*)**
- **California Ridgway's rail (formerly California clapper rail) (*Rallus obsoletus obsoletus*)**
- **Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)**
- **Western snowy plover (*Charadrius alexandrinus nivosus*)**
- **San Pablo song sparrow (*Melospiza melodia samuelis*)**
- **Salt-marsh harvest mouse (*Reithrodontomys raviventris*)**
- **Suisun shrew (*Sorex ornatus sinuosus*)**
- **Vernal pool fairy shrimp (*Branchinecta lynchi*);**
- **California freshwater shrimp (*Syncaris pacifica*);**

- **Steelhead-Central California Coast DPS (*Oncorhynchus mykiss irideus* pop. 8):**

This population of steelhead is found from the Russian River south to Soquel Creek, to (but not including) the Pajaro river. They are also found in San Francisco and San Pablo Bay basins. These fish are categorized as a “*distinct population segment*” with federally threatened status. They are an anadromous species and require streams that are contiguous with the ocean, where they mature before spawning. Steelhead have been identified as being present in parts of Carneros Creek², to which this property drains; however, the stream reach extending through the property is seasonally dry and would only be accessible to steelhead during the winter and early spring months³. The proposed vineyard blocks are in excess of 3,000 feet west of Carneros Creek and this species would not be affected by the development.

- **Western pond turtle (*Emys marmorata*):**

These turtles prefer slow or ponded water with sheltering vegetation but will range widely through less suitable habitat in search of these sites. Stream channels are often used as movement corridors between waterways or ponds. Eggs are laid on land in sheltered nests. Young overwinter in the nest and emerge the following spring in Northern California. Food includes aquatic insects, crustaceans, fish, and riparian vegetation. When present, pond turtles are readily observed basking along shorelines or on logs in shallow water. The ponds and stream channels⁴ on the parcel may support pond turtles.

- **White-tailed kite (*Elanus leucurus*):**

Usually found near agricultural areas, the kite prefers open terrain near woodlands and water. These raptors hunt over open country and prefer large, deciduous trees surrounded by expanses of grassland, meadows, farmland, and/or wetlands for nesting and roosting sites. The grassland within the proposed vineyard blocks may provide hunting habitat for white-tailed kite, and trees within the coast live oak woodlands provide potential nesting habitat. However, these trees are in excess of 3,000 feet from the proposed new vineyard blocks.

² Rich, Alice A., PhD. January 5, 2007. *Fishery Resources Technical Report for the Napa County General Plan and EIR*.

³ Napa County Resource Conservation District, 2003. *Fish Habitat Assessment: A Component of the Watershed Management Plan for the Carneros Creek Watershed, Napa County California*.

⁴ *ibid* footnote 3 for stream channels

- **Golden eagle (*Aquila chrysaetos*):**

Habitat for the eagle includes rolling foothills and mountains. This species requires open terrain for hunting, secluded cliffs with overhanging ledges and large trees for cover, and cliffs and large trees for nesting. The golden eagle prefers large trees surrounded by grassland and adjacent to water for nest sites. Nests consist of large platform nests made of sticks that may be reused from year to year. Food includes rodents and small mammals, reptiles, birds, and some carrion. Incubation of eggs and nestling period may occur anytime between February and August or later.

An eagle was identified in a nest to the east of this site in 2008; the nest has since been removed. No large nests were observed on this site during the visits and this species is not present.

- **Ferruginous hawk (*Buteo regalis*):**

Ferruginous hawks do not nest in California but are considered by the state to be sensitive while wintering in this part of the country. Typical habitat for this raptor consists of an isolated elevated perch (tree, cliff, or manmade object) overlooking large expanses of open grassland or sparse shrub lands. They are also found in low foothills surrounding valleys that provide suitable hunting territory. Proximity to water is apparently not required for this species. Although no they no longer have sensitive status, they are generally protected under California Fish and Game Code Section 3503, which prohibits the disturbance of nests and eggs of non-game birds. Similar protection is provided under the Federal Migratory Bird Treaty Act.

Buteo regalis was found in 1989 east of this site in an area subsequently developed as an industrial park. The site visits for this project occurred in spring and summer, outside of the season the hawk would be present. Disturbance in areas adjacent to grassland outside of the winter season (September-mid-April) has a low potential to affect this species if it is present on the property in the future.

- **Swainson's hawk (*Buteo swainsoni*):**

This species is known locally mostly in the central valley. It breeds in riparian areas and oak savanna. Preferred nesting habitat is open riparian habitat or small groves of trees near sparsely vegetated flatlands. They usually roost in stick nests in large trees, although the hawk will also roost on the ground if no trees are available. Swainson's hawks forage in adjacent grasslands, grazing pastures, or agricultural fields, and their diet ranges from insects to small birds and mammals. They will soar at high and low elevations in search of prey, which is caught in flight, but they may also walk on the ground in search of invertebrates. The project site does not provide good habitat for this species.

- **Northern harrier (*Circus cyaneus hudsonius*):**

This raptor occurs in annual grassland and is also found at high elevations. It inhabits meadows, open grasslands and rangelands, and emergent wetlands; it prefers habitat such as the broad, open grasslands and wetlands of the Sacramento Valley where this species is commonly seen. It is seldom found in wooded or agricultural areas. Formerly called the “marsh hawk”, it nests on the ground in dense shrubby vegetation in and near wetlands. The project site does not provide good habitat for this species.

- **Burrowing owl (*Athene cunicularia hypugaea*):**

These owls nest and forage in open, dry grassland, and in grass, forb, and open shrub stages of ponderosa pine habitats. They generally nest in abandoned rodent burrows, but may dig burrows in soft soil or occasionally use manmade objects such as small drain pipes. They hunt from a nearby perch and eat mostly insects, but they will also take small birds, mammals, and reptiles. The owl's home range is limited to about four acres. Their numbers are decreasing due to habitat destruction (conversion of grasslands to agriculture), and destruction of ground squirrel colonies. At the request of Napa County staff, a survey was conducted for burrowing owls: the results are contained in section 5.0. The project area consists of tall grassland species (See Section 3.3) which do not provide suitable habitat for this burrowing owl. These owls require open habitat with low ground cover in order to provide visibility from burrow sites.

- **Tricolored blackbird (*Agelaius tricolor*):**

Tricolored blackbirds are colony nesters in fresh emergent wetland habitat (tule or cattail marsh), but may also occur in dense blackberry or willow shrub communities adjacent to water. Cover is required for nesting. Proximity to insects is preferred, although food includes seeds and grain. Breeding occurs April through June. The species is usually readily observed when present. At the request of Napa County staff, a survey was conducted for tri-colored blackbirds: The results are contained in section 5.0.

- **Yellow warbler (*Dendroica petechia brewsteri*):**

- **Yellow-breasted chat (*Icteria virens*):**

These warblers require riparian woodland with a dense shrubby understory for nesting and cover, usually dense willow thickets. Fledging is usually completed by August. Nests are constructed in shrubs and small trees in the lower canopy of the woodland, and they forage for insects in the upper canopy. Chats also eat fruit. The willow thickets near the ponds provide habitat for these species; however, if the ponds and adjacent vegetation are not disturbed, these species would not be impacted.

- **Bank swallow (*Riparia riparia*):**

These birds nest in colonies in riparian habitats. Most of these swallows are found in lowland river valleys or coastal areas, preferably along slow-moving streams. Foraging habitats include wetlands, large bodies of water, grasslands, agricultural areas, and open woodlands. Insects make up the majority of the swallows' diet. Bank swallows generally migrate along large bodies of open water, and are found mainly in open habitats with water and grasslands, savannas, or agricultural areas in winter. The project site does not contain appropriate habitat for this species.

- **Pallid bat (*Antrozous pallidus*):**

Optimal habitat for these bats consists of open forest and woodlands with sources of water over which to feed. These bats prefer the cool summer temperatures of caves, crevices, and mines as roosting sites where they are known to wedge themselves into small spaces, but they will also roost in buildings, bridges, and hollow trees. This species is extremely sensitive to human disturbance of roosting sites. Foraging occurs over open country. Maternity colonies tend to be in the more protected, isolated locations and may consist of more than 100 individuals. The project site lacks roosting structures and it is unlikely pallid bats occur here.

- **American badger (*Taxidea taxus*):**

Badgers are found mostly in drier open stages of shrub, forest, and herbaceous habitats with friable soils such as open grasslands, fields, and pastures. This species is carnivorous, eating mostly fossorial rodents; they also will eat reptiles, insects, birds, eggs, and carrion. They dig burrows in friable or sandy soil for cover and nesting, and often reuse old burrows. Breeding occurs in late summer or fall. Nests are in areas with little overstory cover, often a grass-lined den, and young are born mainly in March and April. Badgers have not been identified in southern Napa since the early 1900's. They are unlikely to occur on the project site.

5.0 FIELD SURVEY RESULTS

5.1 Wildlife Survey Results: Surveys for **tri-colored blackbirds and burrowing owls** were conducted within the proposed vineyard blocks at the request of county staff.

Surveys for tri-colored blackbirds:

These birds occur in parts of Napa County in tule (bulrush)-cattail habitat near water bodies. Several of the agricultural ponds on the parcel contain this type of habitat. Surveys were conducted with binoculars along the edges of ponds on the property. These surveys included listening for this species distinctive call. Survey results were negative, although numerous red-wing blackbirds were seen.

Surveys for burrowing owls:

Burrowing owls are usually found in friable soils in short-grass grasslands. They typically use burrows previously constructed by rodents, although they may dig their own. The tall grassland on the project site is not the type preferred by this species, since they require the good visibility provided by short vegetation. No suitable burrows were seen during site visits. No additional surveys are recommended.

5.2 Botanical Field Survey Results: **Table 4** presents the results of the floristic-level botanical survey of the property. Each of the sensitive plant taxa potentially occurring at the property and listed in Tables 2 and 3 was specifically searched for during the surveys. A total of 46 native and introduced plant taxa were identified. This small number is due to the limited vegetation types within the proposed vineyard blocks.

One plant taxon with sensitive regulatory status, **Northern California black walnut (*Juglans hindsii*)**, is present on the property in one of the channels. Due to the widespread loss of these natural populations throughout Northern California, Northern California black walnut is listed as a CNPS List 1B species. This listing requires natural populations of these trees to be included in CEQA review and mitigation under Section 15380(d) of the CEQA Guidelines.

Note: *Even when a site meets the generalized habitat description for a sensitive plant taxon, this is not a guarantee that it is present. The precise habitat requirements for any species cannot be known in most cases. Plants with sensitive regulatory status are rare because they have a narrow band of habitat criteria that must be met. These may include a wide range factors including microclimate, seasonal soil moisture, soil chemistry and texture, and presence or absence of specific pests or competitors.*

At present the specifics of these factors are not known for the vast majority of plant taxa. This issue is understood by regulatory biologists and is dealt with through the requirement that a floristic-level botanical survey be conducted which lists all plants occurring at a site throughout the full range of blooming seasons. Ultimately, the botanical survey determines whether a taxon is present or not present.

TABLE 4. FLORA OF THE MITSUKO'S VINEYARD PROJECT

Habit	Species	Common Name	Family	Origin
forb	<i>Calendula officinalis</i>	pot marigold	Asteraceae	A
forb	<i>Helminthotheca echoides</i>	bristly ox-tongue	Asteraceae	A
forb	<i>Silybum marianum</i>	milk thistle	Asteraceae	A
forb	<i>Tragopogon porrifolius</i>	salsify	Asteraceae	A
forb	<i>Brassica nigra</i>	black mustard	Brassicaceae	A
forb	<i>Cardamine breweri</i>	Brewer's bittercress	Brassicaceae	N
forb	<i>Convolvulus arvensis</i>	orchard morning-glory	Convolvulaceae	A
forb	<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	tule, bulrush	Cyperaceae	N
forb	<i>Vicia americana</i> var. <i>americana</i>	American vetch	Fabaceae	N
forb	<i>Erodium cicutarium</i>	red-stem storksbill	Geraniaceae	A
forb	<i>Geranium dissectum</i>	cut-leaved geranium	Geraniaceae	A
forb	<i>Geranium robertianum</i>	Robert's geranium	Geraniaceae	A
forb	<i>Lemna minuta</i>	least duck weed	Lemnaceae	N
forb	<i>Eschscholzia californica</i>	California poppy	Papaveraceae	N
forb	<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	A
forb	<i>Rumex acetosella</i>	sheep sorrel	Polygonaceae	A
forb	<i>Rumex crispus</i>	curly dock	Polygonaceae	A
forb	<i>Anagallis arvensis</i>	scarlet pimpernel	Primulaceae	A
forb	<i>Galium aparine</i>	goose grass, common bedstraw	Rubiaceae	N
forb	<i>Typha angustifolia</i>	narrow-leaf cattail	Typhaceae	N
grass	<i>Avena barbata</i>	slender wild oat	Poaceae	A
grass	<i>Briza minor</i>	small quaking grass	Poaceae	A
grass	<i>Bromus diandrus</i>	ripgut brome, ripgut grass	Poaceae	A
grass	<i>Bromus hordeaceus</i>	soft chess	Poaceae	A
grass	<i>Dactylus glomerata</i>	orchard grass	Poaceae	A
grass	<i>Festuca bromoides</i>	brome fescue	Poaceae	A

Habit	Species	Common Name	Family	Origin
grass	<i>Festuca perennis</i>	Italian rye grass, perennial ryegrass	Poaceae	A
grass	<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	Poaceae	A
grass	<i>Phalaris minor</i>	littleseed canary grass	Poaceae	A
shrub	<i>Toxicodendron diversilobum</i>	poison oak	Anacardiaceae	N
shrub	<i>Baccharis pilularis</i>	coyote brush, chaparral broom	Asteraceae	N
shrub	<i>Rosa californica</i>	California wild rose	Rosaceae	N
shrub	<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	A
tree	<i>Cornus glabrata</i>	smooth-leaf dogwood, brown dogwood	Cornaceae	N
tree	<i>Quercus agrifolia</i>	coast live oak	Fagaceae	N
tree	<i>Quercus garryanna var. garryanna</i>	Oregon white oak	Fagaceae	N
tree	<i>Aesculus californica</i>	California buckeye	Hippocastanaceae	N
tree	<i>Juglans hindsii</i>	Northern California black walnut; CNPS Rank 1B.1	Juglandaceae	N
tree	<i>Umbellularia californica</i>	California bay	Lauraceae	N
tree	<i>Eucalyptus globulus</i>	bluegum eucalyptus	Myrtaceae	A
tree	<i>Prunus avium</i>	domestic cherry	Rosaceae	A
tree	<i>Populus fremontii var. fremontii</i>	Fremont cottonwood	Salicaceae	N
tree	<i>Salix laevigata</i>	red willow	Salicaceae	N
tree	<i>Acer macrophyllum</i>	big-leaf maple	Sapindaceae	N
vine	<i>Marah fabaceus</i>	California manroot	Cucurbitaceae	N

Origin: N = Native, A = Alien

6.0 DELINEATION OF WATERS OF THE U.S.

6.1 Purpose of Delineation: This delineation has been conducted at the request of the local permitting agency in order to determine the extent of possible waters of the U.S. on the property.

6.2 Delineation Procedure: This delineation has been conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, 2008. Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement* 1973, and Mason's *Flora of the Marshes of California*, 1957, were used as supplemental texts; however, all nomenclature and wetland indicator status have been checked with the U.S. Army Corps of Engineers. 2016. *National Wetland Plant Lists: Arid West and California*.

The survey included use of Google satellite images, 7.5' USGS quadrangle maps, and LIDAR mapped overlays along with an extensive foot survey.

6.3 Delineation Date: Delineation fieldwork was conducted on April 13, 2018.

6.4 Delineation Staff: The delineation was conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky 35 years of experience as a biologist in the government and private sectors. He completed his wetland delineation training under Terry Huffman of Huffman & Associates, Inc.

6.5 Site Description: Location, Drainage, and Soil Type are discussed in detail in Section 1.2 (Location), Section 3.1 (Topography and Drainage), and Section 3.2 in the biological resource assessment report in which this delineation is included. All Waters of the U.S. occurring within the survey area consist of "other waters" pursuant to Corps of Engineers Definitions.

6.6 Aquatic Resources Results: The results of the delineation are shown on the aerial photo base map provided in **Figure 3**. The total area of delineated waters is 16.65 acres in ponds and stream segments. The delineation results are shown below in **Table 5**. However, Ponds P1 and P2 impound well water and qualify as upland agricultural ponds, although historically Pond P1 may have been contiguous with surface waters (see **Figure 3**). These two ponds totaling 8.94 surface acres may not qualify as Waters of the U.S. **Consequently, jurisdictional Waters of the U.S. would total 7.71 acres.** Additionally, the upstream flows of waterways E6, E8, and E10 were intercepted at the property line with drop culverts prior to 1993. While the downstream surface features of these three

channels persist, any remaining surface flows would be limited to collected sheet flows along the remaining surface channels.

Additionally, at the up-slope western property line, stream segments ES-6 and ES-10 are captured by drop inlets and are culverted down-slope to ES-5. Their confluences with ES-5 are located at drop inlets located at their original confluence with ES-5. The original channels remain and are delineated as Waters of the U.S.

There are no wetlands associated with this project.

TABLE 5. POSSIBLE WATERS OF THE U.S.

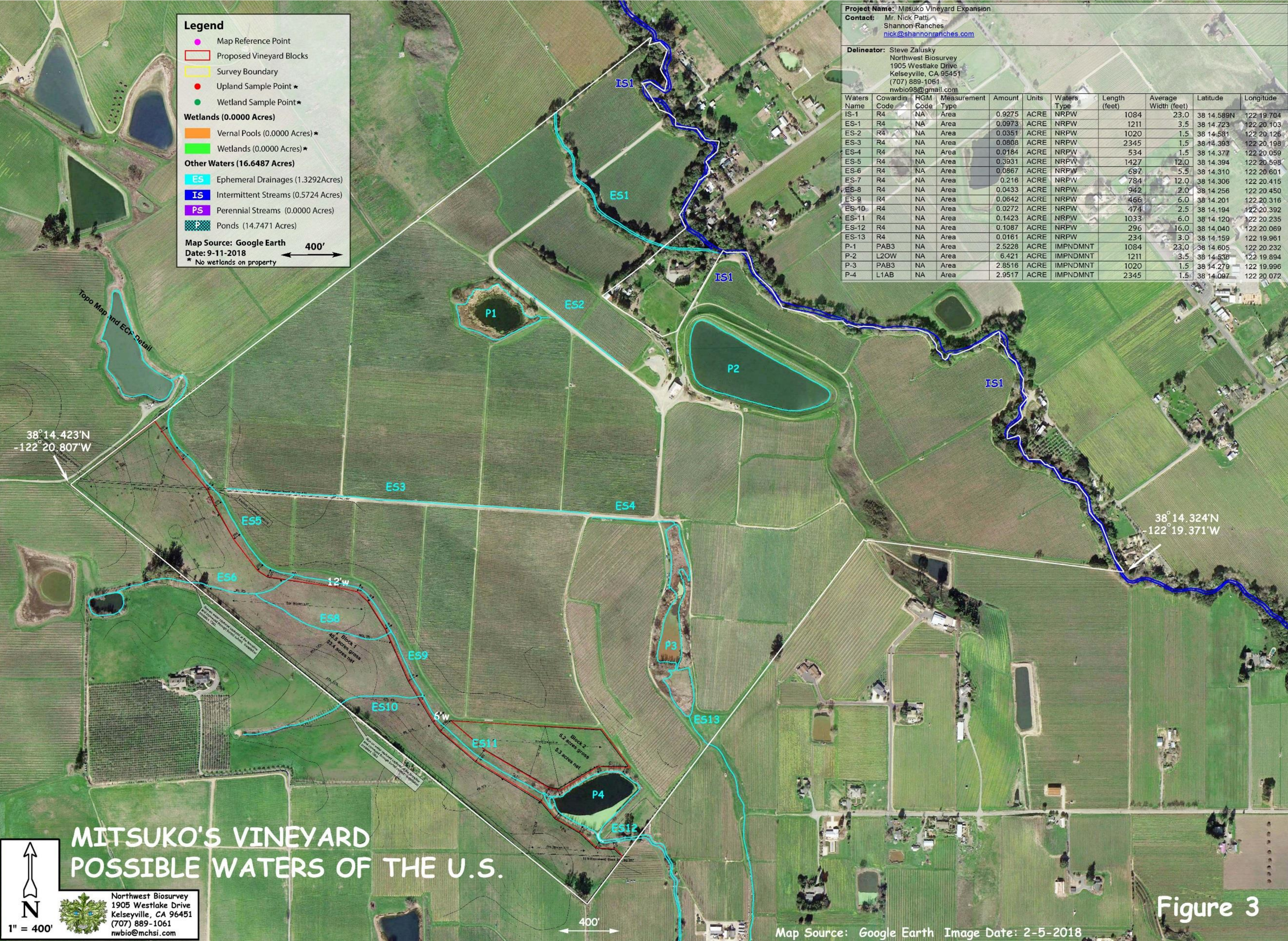
Waters Name	Cowardin Code	HGM Code	Measurement Type	Amount	Units	Waters Type	Length (feet)	Average Width (feet)	Latitude	Longitude
IS-1	R4	NA	Area	0.9275	ACRE	NRPW	1084	23.0	38 14.589N	122 19.704
ES-1	R4	NA	Area	0.0973	ACRE	NRPW	1211	3.5	38 14.723	122 20.103
ES-2	R4	NA	Area	0.0351	ACRE	NRPW	1020	1.5	38 14.581	122 20.126
ES-3	R4	NA	Area	0.0808	ACRE	NRPW	2345	1.5	38 14.393	122 20.198
ES-4	R4	NA	Area	0.0184	ACRE	NRPW	534	1.5	38 14.377	122 20.059
ES-5	R4	NA	Area	0.3931	ACRE	NRPW	1427	12.0	38 14.394	122 20.598
ES-6	R4	NA	Area	0.0867	ACRE	NRPW	687	5.5	38 14.310	122 20.601
ES-7	R4	NA	Area	0.216	ACRE	NRPW	784	12.0	38 14.306	122 20.415
ES-8	R4	NA	Area	0.0433	ACRE	NRPW	942	2.0	38 14.256	122 20.450
ES-9	R4	NA	Area	0.0642	ACRE	NRPW	466	6.0	38 14.201	122 20.316
ES-10	R4	NA	Area	0.0272	ACRE	NRPW	474	2.5	38 14.194	122 20.392
ES-11	R4	NA	Area	0.1423	ACRE	NRPW	1033	6.0	38 14.120	122 20.235
ES-12	R4	NA	Area	0.1087	ACRE	NRPW	296	16.0	38 14.040	122 20.069
ES-13	R4	NA	Area	0.0161	ACRE	NRPW	234	3.0	38 14.159	122 19.961
P-1	PAB3	NA	Area	2.5228	ACRE	IMPNDMNT	NA	NA	38 14.605	122 20.232
P-2	L2OW	NA	Area	6.421	ACRE	IMPNDMNT	NA	NA	38 14.536	122 19.894
P-3	PAB3	NA	Area	2.8516	ACRE	IMPNDMNT	NA	NA	38 14.279	122 19.996
P-4	L1AB	NA	Area	2.9517	ACRE	IMPNDMNT	NA	NA	38 14.097	122 20.072

*Ponds P1 and P2 impound well water and may not qualify as Waters of the U.S.

ES: Ephemeral Stream - runs briefly during and shortly after rainfall events

IS: Intermittent Stream- runs for a period of the year but not throughout the year

PS: Typically runs throughout the year



7.0 CONFORMANCE WITH NAPA COUNTY BASELINE DATA REPORT (BDR)

Each of the pertinent sections of the Napa County Baseline Data Report was reviewed to determine whether the issues and biological resources with special status in Napa County have been addressed in this biological assessment.

7.1 Sensitive Biotic Communities: The project area does not contain communities listed as sensitive biotic communities in the Napa County Baseline Data Report.

7.2 Special Status Plants and Wildlife: As noted in Section 2, Assessment Methodology, the pre-survey research conducted for this project included systematic reviews of the California Natural Diversity Database (CNDDDB), California Native Plant Society Electronic Inventory, and California Department of Fish and Wildlife's Wildlife Habitat Relationships Program. The list of special status plants and wildlife used in the BDR is derived from the CNDDDB. Additionally, Tables 4-6 and 4-7 of the Special Status Plants and Wildlife sections of the BDR were reviewed to assure consistency between the lists. All species listed in the CNDDDB are subject to CEQA review pursuant to Section 15380 (d) of the CEQA Guidelines.

Special Status Plants: The floristic-level botanical survey conducted for this project identified 46 native and introduced plant taxa within the survey area. One of these is a plant listed in the California Natural Diversity Database (CNDDDB):

- **Juglans hindsii, Northern California black walnut;** CNPS Rank 1B.1

Special Status Wildlife: As noted in Section 5.1, surveys were conducted for tri-colored blackbirds and burrowing owls within the vineyard blocks. Results for both species were negative.

7.3 Potential Wildlife Movement Corridors: The CalWild Linkage Map presented in Map 4-2 of the BDR was reviewed with respect to this project. The project area is not within a movement area as defined by the CalWild database.

Locally, Carneros Creek remains the primary wildlife movement corridor within the area. While it remains important for movement of fish and herptiles (reptile and amphibians), the creek now passes through continuous vineyard lands and passage for larger mammals (deer and their predators, etc. is significantly restricted by fencing and unsuitable adjacent habitats. This creek defines the northeastern boundary of the property and is approximately 3,000 feet east of the proposed vineyard development.

The proposed development area itself is isolated by continuous surrounding vineyards and is not contiguous with wildlife movement areas.

7.4. Fisheries Resources: Carneros Creek contains a steelhead Central California Coast Distinct Population Segment (DPS) which has sensitive regulatory status. As discussed in detail in Section 4.4, the Napa County Resource Conservation District has performed a number of fish surveys on Carneros Creek. These surveys indicate that while upstream segments provide potential habitat for the species, the segment extending along the northeastern property boundary is dry during the summer and fall months and movement through this stream segment would be seasonal.

8.0 SUMMARY, IMPACT ANALYSIS, AND RECOMMENDATIONS

8.1 Summary: This biological resource assessment involved the following analyses and surveys for sensitive plants and wildlife potentially occurring in the vicinity of the project:

- Review of current California Natural Diversity Database (CNDDDB) mapping of known sensitive plant and wildlife populations within the region.
- An analysis of the suitability of the site for sensitive plants and wildlife using the California Native Plant Society *Electronic Inventory of Rare and Endangered Vascular Plants of California*, and the California Department of Fish and Wildlife's *California Wildlife Habitat Relationships System*.
- A California Department of Fish and Wildlife protocol, floristic-level field survey of the plants occurring within and in the immediate vicinity of the project.
- Surveys for tri-colored blackbirds and burrowing owls.
- A delineation of waters of the U.S. conducted according to the *Corps of Engineers Wetlands Delineation Manual, January 1987* as updated by the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2008*.
- Review of the Napa County Baseline Data Report (BDR), 2005.

Sensitive Plants: A total of 46 native and introduced plant taxa were identified on the property during the in-season, floristic-level botanical survey. One species with sensitive regulatory status was found on the property during the surveys: **Northern California black walnut (*Juglans hindsii*)**, a CNPS Rank 1B.1 taxon.

As used here, the term sensitive includes species having state or federal regulatory status, defined as Rare Plant Ranks 1B through 4 by the California Native Plant Society, or otherwise listed in the California Natural Diversity Database. Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review.

Sensitive Wildlife: A total of 27 sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDDB database for the quadrangle, inclusion in the CWHR analysis, or were added based on local knowledge of the survey staff. Of these, four species have a potential to occur within the survey area. These are:

- **Western pond turtle**
- **Yellow warbler**
- **Yellow-breasted chat**
- **Tricolor blackbird**

Woodland Resources: A Napa County Woodland Assessment was not conducted for this project due to the lack of woodland within the project area. No woodlands will be impacted by this project.

Possible Waters of U.S.: The total area of all delineated waters is 16.65 acres in stream channels and ponds. However, two of these ponds (P1 and P2 - totaling 8.94 acres) are fed by well water and are unlikely to qualify as Waters of the U.S. In consequence, **total Waters of the U.S. would equal 7.71 acres.**

8.2 Potential Impacts and Proposed Mitigations:

▪ **Habitat Fragmentation:**

Potential Impact: The Napa County Baseline Data Report emphasizes preservation of wildlife corridors and prevention of habitat fragmentation. The proposed new vineyard area is surrounded by continuous vineyard development and is not contiguous with wildlife habitat in the region. It is unlikely that this project would have a significant additional habitat fragmentation.

Measure 1 Proposed Mitigation: Pond P4 connects to an off-site pond to the north and to continuous waterways to the south via a connecting drainage channel shown as segments ES-5,7,9,11,&12 in **Figure 3**. This provides habitat continuity and a movement corridor through this drainage for herptiles. It is recommended that this corridor be preserved with a waterway setback. Additional mitigation is provided by Measure 2 below.

▪ **Woodland and Forest Resources:**

Potential Impact: As shown in **Table 1**, the property contains a total of 10.90 acres of coast live oak woodland, 3.40 acres of red willow thicket, and 0.35 acres of eucalyptus grove. The proposed new vineyard development is approximately 3,000 west of the coast live oak woodlands along Carneros Creek and would not impact them. Red willow thicket occurs around the banks of Pond P4. Proposed vineyard blocks should maintain a buffer

(consistent with Napa County riparian setbacks) from the banks of Pond P4. The project would not have a significant effect on woodland resources.

Measure 2 Proposed Mitigation: The proposed vineyard blocks, including vineyard avenues, should maintain a minimum 20-foot setback (or a larger setback consistent with Napa County standards) from the red willow and Fremont cottonwood riparian canopy surrounding Pond P4 as mapped in **Figures 2 and 3.**

▪ **Sensitive Plants and Wildlife**

Potential Impacts:

Plants: **Northern California black walnut**, a CNPS Rank 1B.1 taxon, occurs within the riparian woodland of Carneros Creek and its adjacent tributary. Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review.

The Carneros Creek riparian woodland is approximately 3,000 feet east of the proposed new vineyard development and would not be impacted by this project.

Wildlife: Pond P4 contains potential habitat for the following species with sensitive regulatory status:

- Western pond turtle
- Yellow warbler
- Yellow-breasted chat
- tri-color blackbird

Any direct project-related impacts to this pond have a potential to result in an incidental take of these sensitive species. Yellow warbler, yellow-breasted chat, and tri-color blackbird are all California Species of Special Concern and tri-color blackbird is additionally a candidate for State Endangered Status. These birds and their active nests are protected from incidental take.

A discussion of potential impacts due to loss of grassland foraging habitat for raptors is provided in **Appendix C**. Potential Impacts may consist of a change in available prey species. Other potential impacts are not quantifiable with currently available research as discussed in **Appendix C**.

Measure 3 Proposed Mitigation:

Sensitive plant populations: No mitigation is recommended.

Birds: Mitigation for potential impacts to yellow warbler, yellow-breasted chat, and tri-color blackbird is provided by measure 2 above.

Herptiles: Measures 1 and 2 above provide mitigation for herptiles.

▪ **Waters of the U.S.**

Potential Impacts: As listed in Table 5 and mapped in Figure 3, the vineyard property contains a total of 7.71 acres of Possible Waters of the U.S. Construction of this vineyard blocks VB A and VB B has a potential to result in the filling of waterway ES 6 as mapped in Figure 3.

Measure 4 Proposed Mitigation: Placement of fill within Waters of the U.S. may require a Nationwide permit by the Corps of Engineers (possibly a non-reporting permit under the Nationwide Permit Program), along with a 401 Water Quality Certification from the Regional Water Quality Control Board, and 1604 Stream Alteration Agreement from the California Department of Fish and Wildlife. The County of Napa may require stream setbacks.

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APPENDIX A

**CNDDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE
SURROUNDING CALIF. 7½' QUADS.**

Surrounding 9-Quad List: Cuttings Wharf Quadrangles

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Benicia	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Benicia	<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL	-
Benicia	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Benicia	<i>Buteo regalis</i>	ferruginous hawk	None	None	WL	-
Benicia	<i>Circus cyaneus</i>	northern harrier	None	None	SSC	-
Benicia	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Benicia	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Benicia	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Benicia	<i>Eremophila alpestris actia</i>	California horned lark	None	None	WL	-
Benicia	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Benicia	<i>Melospiza melodia maxillaris</i>	Suisun song sparrow	None	None	SSC	-
Benicia	<i>Melospiza melodia pusillula</i>	Alameda song sparrow	None	None	SSC	-
Benicia	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Benicia	<i>Falco mexicanus</i>	prairie falcon	None	None	WL	-
Benicia	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Benicia	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Benicia	<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	SSC	-
Benicia	<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None	SSC	-
Benicia	<i>Coturnicops noveboracensis</i>	yellow rail	None	None	SSC	-
Benicia	<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threat	FP	-
Benicia	<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	End	End	FP	-
Benicia	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Benicia	<i>Selasphorus rufus</i>	rufous hummingbird	None	None	-	-
Benicia	<i>Acipenser medirostris</i>	green sturgeon	Threat	None	SSC	-
Benicia	<i>Acipenser transmontanus</i>	white sturgeon	None	None	SSC	-
Benicia	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None	SSC	-
Benicia	<i>Hypomesus transpacificus</i>	Delta smelt	Threat	End	-	-
Benicia	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Benicia	<i>Entosphenus tridentatus</i>	Pacific lamprey	None	None	SSC	-
Benicia	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Benicia	<i>Oncorhynchus mykiss irideus pop. 11</i>	steelhead - Central Valley DPS	Threat	None	-	-
Benicia	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Benicia	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
Benicia	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Benicia	<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None	-	-
Benicia	<i>Speyeria callippe callippe</i>	callippe silverspot butterfly	End	None	-	-
Benicia	<i>Nyctinomops macrotis</i>	big free-tailed bat	None	None	SSC	-
Benicia	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Benicia	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Benicia	<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL	-
Benicia	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Benicia	<i>Buteo regalis</i>	ferruginous hawk	None	None	WL	-
Benicia	<i>Circus cyaneus</i>	northern harrier	None	None	SSC	-
Benicia	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Benicia	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Benicia	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Benicia	<i>Eremophila alpestris actia</i>	California horned lark	None	None	WL	-
Benicia	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Benicia	<i>Melospiza melodia maxillaris</i>	Suisun song sparrow	None	None	SSC	-
Benicia	<i>Melospiza melodia pusillula</i>	Alameda song sparrow	None	None	SSC	-
Benicia	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Benicia	<i>Falco mexicanus</i>	prairie falcon	None	None	WL	-
Benicia	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Benicia	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Benicia	<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	SSC	-
Benicia	<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None	SSC	-
Benicia	<i>Coturnicops noveboracensis</i>	yellow rail	None	None	SSC	-
Benicia	<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threat	FP	-
Benicia	<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	End	End	FP	-
Benicia	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Benicia	<i>Selasphorus rufus</i>	rufous hummingbird	None	None	-	-
Benicia	<i>Acipenser medirostris</i>	green sturgeon	Threat	None	SSC	-
Benicia	<i>Acipenser transmontanus</i>	white sturgeon	None	None	SSC	-
Benicia	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None	SSC	-
Benicia	<i>Hypomesus transpacificus</i>	Delta smelt	Threat	End	-	-
Benicia	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Benicia	<i>Entosphenus tridentatus</i>	Pacific lamprey	None	None	SSC	-
Benicia	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Benicia	<i>Oncorhynchus mykiss irideus pop. 11</i>	steelhead - Central Valley DPS	Threat	None	-	-
Benicia	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Benicia	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
Benicia	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Benicia	<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None	-	-
Benicia	<i>Speyeria callippe callippe</i>	callippe silverspot butterfly	End	None	-	-
Benicia	<i>Nyctinomops macrotis</i>	big free-tailed bat	None	None	SSC	-
Benicia	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-
Benicia	<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None	SSC	-
Benicia	<i>Masticophis lateralis euryxanthus</i>	Alameda whipsnake	Threat	Threat	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Benicia	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Benicia	<i>Coastal Brackish Marsh</i>	Coastal Brackish Marsh	None	None	-	-
Benicia	<i>Northern Coastal Salt Marsh</i>	Northern Coastal Salt Marsh	None	None	-	-
Benicia	<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	None	None	-	2B.1
Benicia	<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
Benicia	<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	Rare	-	1B.1
Benicia	<i>Blepharizonia plumosa</i>	big tarplant	None	None	-	1B.1
Benicia	<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	None	None	-	1B.1
Benicia	<i>Helianthella castanea</i>	Diablo helianthella	None	None	-	1B.2
Benicia	<i>Isocoma arguta</i>	Carquinez goldenbush	None	None	-	1B.1
Benicia	<i>Lasthenia conjugens</i>	Contra Costa goldfields	End	None	-	1B.1
Benicia	<i>Senecio aphanactis</i>	chaparral ragwort	None	None	-	2B.2
Benicia	<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None	-	1B.2
Benicia	<i>Spergularia macrotheca</i> var. <i>longistyla</i>	long-styled sand-spurrey	None	None	-	1B.2
Benicia	<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	None	None	-	1B.2
Benicia	<i>Trifolium hydrophilum</i>	saline clover	None	None	-	1B.2
Benicia	<i>Calochortus pulchellus</i>	Mt. Diablo fairy-lantern	None	None	-	1B.2
Benicia	<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	None	None	-	4.2
Benicia	<i>Chloropyron molle</i> ssp. <i>molle</i>	soft salty bird's-beak	End	Rare	-	1B.2
Benicia	<i>Polygonum marinense</i>	Marin knotweed	None	None	-	3.1
Benicia	<i>Dirca occidentalis</i>	western leatherwood	None	None	-	1B.2
Cordelia	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Cordelia	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Cordelia	<i>Taricha torosa</i>	Coast Range newt	None	None	SSC	-
Cordelia	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Cordelia	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Cordelia	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Cordelia	<i>Ardea alba</i>	great egret	None	None	-	-
Cordelia	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Cordelia	<i>Egretta thula</i>	snowy egret	None	None	-	-
Cordelia	<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	-	-
Cordelia	<i>Melospiza melodia maxillaris</i>	Suisun song sparrow	None	None	SSC	-
Cordelia	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Cordelia	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Cordelia	<i>Coturnicops noveboracensis</i>	yellow rail	None	None	SSC	-
Cordelia	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Cordelia	<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead - central California coast DPS	Threat	None	-	-
Cordelia	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Cordelia	<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	Threat	None	-	-
Cordelia	<i>Speyeria callippe callippe</i>	callippe silverspot butterfly	End	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Cordelia	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-
Cordelia	<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None	SSC	-
Cordelia	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Cordelia	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Cordelia	<i>Serpentine Bunchgrass</i>	Serpentine Bunchgrass	None	None	-	-
Cordelia	<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
Cordelia	<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	None	None	-	1B.2
Cordelia	<i>Centromadia parryi ssp. parryi</i>	pappose tarplant	None	None	-	1B.2
Cordelia	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Cordelia	<i>Helianthella castanea</i>	Diablo helianthella	None	None	-	1B.2
Cordelia	<i>Isocoma arguta</i>	Carquinez goldenbush	None	None	-	1B.1
Cordelia	<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None	-	1B.2
Cordelia	<i>Trifolium amoenum</i>	two-fork clover	End	None	-	1B.1
Cordelia	<i>Trifolium hydrophilum</i>	saline clover	None	None	-	1B.2
Cordelia	<i>Iris longipetala</i>	coast iris	None	None	-	4.2
Cordelia	<i>Castilleja affinis var. neglecta</i>	Tiburon paintbrush	End	Threat	-	1B.2
Cordelia	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Cuttings Wharf	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Cuttings Wharf	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Cuttings Wharf	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Cuttings Wharf	<i>Buteo regalis</i>	ferruginous hawk	None	None	WL	-
Cuttings Wharf	<i>Buteo swainsoni</i>	Swainson's hawk	None	Threat	-	-
Cuttings Wharf	<i>Circus cyaneus</i>	northern harrier	None	None	SSC	-
Cuttings Wharf	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Cuttings Wharf	<i>Ardea alba</i>	great egret	None	None	-	-
Cuttings Wharf	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Cuttings Wharf	<i>Egretta thula</i>	snowy egret	None	None	-	-
Cuttings Wharf	<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	-	-
Cuttings Wharf	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Threat	None	SSC	-
Cuttings Wharf	<i>Charadrius montanus</i>	mountain plover	None	None	SSC	-
Cuttings Wharf	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Cuttings Wharf	<i>Passerculus sandwichensis alaudinus</i>	Bryant's savannah sparrow	None	None	SSC	-
Cuttings Wharf	<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	None	End	-	-
Cuttings Wharf	<i>Riparia riparia</i>	bank swallow	None	Threat	-	-
Cuttings Wharf	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Cuttings Wharf	<i>Hydroprogne caspia</i>	Caspian tern	None	None	-	-
Cuttings Wharf	<i>Sternula antillarum browni</i>	California least tern	End	End	FP	-
Cuttings Wharf	<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None	SSC	-
Cuttings Wharf	<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	WL	-
Cuttings Wharf	<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threat	FP	-
Cuttings Wharf	<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	End	End	FP	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Cuttings Wharf	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Cuttings Wharf	<i>Syncares pacifica</i>	California freshwater shrimp	End	End	-	-
Cuttings Wharf	<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threat	None	-	-
Cuttings Wharf	<i>Acipenser transmontanus</i>	white sturgeon	None	None	SSC	-
Cuttings Wharf	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None	SSC	-
Cuttings Wharf	<i>Hysterocarpus traski traski</i>	Sacramento-San Joaquin tule perch	None	None	-	-
Cuttings Wharf	<i>Hypomesus transpacificus</i>	Delta smelt	Threat	End	-	-
Cuttings Wharf	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Cuttings Wharf	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Cuttings Wharf	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Cuttings Wharf	<i>Oncorhynchus tshawytscha pop. 13</i>	chinook salmon - Central Valley fall / late fall-run ESU		None	None	SSC -
Cuttings Wharf	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-
Cuttings Wharf	<i>Taxidea taxus</i>	American badger	None	None	SSC	-
Cuttings Wharf	<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None	SSC	-
Cuttings Wharf	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Cuttings Wharf	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Cuttings Wharf	<i>Coastal Brackish Marsh</i>	Coastal Brackish Marsh	None	None	-	-
Cuttings Wharf	<i>Northern Coastal Salt Marsh</i>	Northern Coastal Salt Marsh	None	None	-	-
Cuttings Wharf	<i>Northern Vernal Pool</i>	Northern Vernal Pool	None	None	-	-
Cuttings Wharf	<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	Rare	-	1B.1
Cuttings Wharf	<i>Lasthenia conjugens</i>	Contra Costa goldfields	End	None	-	1B.1
Cuttings Wharf	<i>Symphyotrichum lentum</i>	Suisun Marsh aster	None	None	-	1B.2
Cuttings Wharf	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Cuttings Wharf	<i>Legenere limosa</i>	legenere	None	None	-	1B.1
Cuttings Wharf	<i>Extriplex joaquinana</i>	San Joaquin spearscale	None	None	-	1B.2
Cuttings Wharf	<i>Carex lyngbyei</i>	Lyngbye's sedge	None	None	-	2B.2
Cuttings Wharf	<i>Eleocharis parvula</i>	small spikerush	None	None	-	4.3
Cuttings Wharf	<i>Astragalus tener var. tener</i>	alkali milk-vetch	None	None	-	1B.2
Cuttings Wharf	<i>Lathyrus jepsonii var. jepsonii</i>	Delta tule pea	None	None	-	1B.2
Cuttings Wharf	<i>Trifolium amoenum</i>	two-fork clover	End	None	-	1B.1
Cuttings Wharf	<i>Trifolium hydrophilum</i>	saline clover	None	None	-	1B.2
Cuttings Wharf	<i>Castilleja ambigua var. ambigua</i>	johnny-nip	None	None	-	4.2
Cuttings Wharf	<i>Chloropyron molle ssp. molle</i>	soft salty bird's-beak	End	Rare	-	1B.2
Cuttings Wharf	<i>Polygonum marinense</i>	Marin knotweed	None	None	-	3.1
Cuttings Wharf	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Mare Island	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Mare Island	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Mare Island	<i>Circus cyaneus</i>	northern harrier	None	None	SSC	-
Mare Island	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Mare Island	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Mare Island	<i>Eremophila alpestris actia</i>	California horned lark	None	None	WL	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Mare Island	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Mare Island	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Mare Island	<i>Xanthocephalus xanthocephalus</i>	yellow-headed blackbird	None	None	SSC	-
Mare Island	<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	SSC	-
Mare Island	<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None	SSC	-
Mare Island	<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threat	FP	-
Mare Island	<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	End	End	FP	-
Mare Island	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Mare Island	<i>Acipenser medirostris</i>	green sturgeon	Threat	None	SSC	-
Mare Island	<i>Acipenser transmontanus</i>	white sturgeon	None	None	SSC	-
Mare Island	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None	SSC	-
Mare Island	<i>Hysterocarpus traski traski</i>	Sacramento-San Joaquin tule perch	None	None	-	-
Mare Island	<i>Hypomesus transpacificus</i>	Delta smelt	Threat	End	-	-
Mare Island	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Mare Island	<i>Entosphenus tridentatus</i>	Pacific lamprey	None	None	SSC	-
Mare Island	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Mare Island	<i>Oncorhynchus mykiss irideus pop. 11</i>	steelhead - Central Valley DPS	Threat	None	-	-
Mare Island	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Mare Island	<i>Oncorhynchus tshawytscha pop. 13</i>	chinook salmon - Central Vall fall / late fall-run ESU	None	None	SSC	-
Mare Island	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Mare Island	<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None	-	-
Mare Island	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-
Mare Island	<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None	SSC	-
Mare Island	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Mare Island	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Mare Island	<i>Northern Coastal Salt Marsh</i>	Northern Coastal Salt Marsh	None	None	-	-
Mare Island	<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	Rare	-	1B.1
Mare Island	<i>Isocoma arguta</i>	Carquinez goldenbush	None	None	-	1B.1
Mare Island	<i>Senecio aphanactis</i>	chaparral ragwort	None	None	-	2B.2
Mare Island	<i>Lathyrus jepsonii var. jepsonii</i>	Delta tule pea	None	None	-	1B.2
Mare Island	<i>Fritillaria liliacea</i>	fragrant fritillary	None	None	-	1B.2
Mare Island	<i>Castilleja ambigua var. ambigua</i>	johnny-nip	None	None	-	4.2
Mare Island	<i>Chloropyron molle ssp. molle</i>	soft salty bird's-beak	End	Rare	-	1B.2
Mt. George	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Mt. George	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Mt. George	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Mt. George	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Mt. George	<i>Falco mexicanus</i>	prairie falcon	None	None	WL	-
Mt. George	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Mt. George	<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	Threat	None	-	-
Mt. George	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Mt. George	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3
Mt. George	<i>Centromadia parryi</i> ssp. <i>rudis</i>	Parry's rough tarplant	None	None	-	4.2
Mt. George	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Mt. George	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Mt. George	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Mt. George	<i>Arabis modesta</i>	modest rockcress	None	None	-	4.3
Mt. George	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Mt. George	<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None	-	2B.3
Mt. George	<i>Rhynchospora californica</i>	California beaked-rush	None	None	-	1B.1
Mt. George	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Mt. George	<i>Trichostema ruygtii</i>	Napa bluecurls	None	None	-	1B.2
Mt. George	<i>Lilium rubescens</i>	redwood lily	None	None	-	4.2
Mt. George	<i>Hesperolinon breweri</i>	Brewer's western flax	None	None	-	1B.2
Mt. George	<i>Sidalcea hickmanii</i> ssp. <i>napensis</i>	Napa checkerbloom	None	None	-	1B.1
Mt. George	<i>Calandrinia breweri</i>	Brewer's calandrinia	None	None	-	4.2
Mt. George	<i>Agrostis hendersonii</i>	Henderson's bent grass	None	None	-	3.2
Mt. George	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Mt. George	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Mt. George	<i>Ceanothus purpureus</i>	holly-leaved ceanothus	None	None	-	1B.2
Mt. George	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Mt. George	<i>Triteleia lugens</i>	dark-mouthed triteleia	None	None	-	4.3
Napa	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Napa	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Napa	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Napa	<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL	-
Napa	<i>Buteo swainsoni</i>	Swainson's hawk	None	Threat	-	-
Napa	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Napa	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Napa	<i>Ardea alba</i>	great egret	None	None	-	-
Napa	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Napa	<i>Egretta thula</i>	snowy egret	None	None	-	-
Napa	<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	-	-
Napa	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Napa	<i>Riparia riparia</i>	bank swallow	None	Threat	-	-
Napa	<i>Baeolophus inornatus</i>	oak titmouse	None	None	-	-
Napa	<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None	SSC	-
Napa	<i>Setophaga petechia</i>	yellow warbler	None	None	SSC	-
Napa	<i>Calasellus californicus</i>	An isopod	None	None	-	-
Napa	<i>Syncaris pacifica</i>	California freshwater shrimp	End	End	-	-
Napa	<i>Mylopharodon conocephalus</i>	hardhead	None	None	SSC	-
Napa	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None	SSC	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Napa	<i>Hysteroecarpus traski</i> pomo	Russian River tule perch	None	None	SSC	-
Napa	<i>Hypomesus transpacificus</i>	Delta smelt	Threat	End	-	-
Napa	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Napa	<i>Entosphenus tridentatus</i>	Pacific lamprey	None	None	SSC	-
Napa	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Napa	<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead - central California coast DPS	Threat	None	-	-
Napa	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Napa	<i>Taxidea taxus</i>	American badger	None	None	SSC	-
Napa	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Napa	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Napa	<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	None	None	-	1B.2
Napa	<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	Rare	-	1B.1
Napa	<i>Erigeron greenii</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Napa	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Napa	<i>Lasthenia conjugens</i>	Contra Costa goldfields	End	None	-	1B.1
Napa	<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None	-	1B.2
Napa	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Napa	<i>Extriplex joaquinana</i>	San Joaquin spearscale	None	None	-	1B.2
Napa	<i>Eleocharis parvula</i>	small spikerush	None	None	-	4.3
Napa	<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	None	None	-	1B.2
Napa	<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	None	None	-	1B.2
Napa	<i>Trifolium amoenum</i>	two-fork clover	End	None	-	1B.1
Napa	<i>Trifolium hydrophilum</i>	saline clover	None	None	-	1B.2
Napa	<i>Juglans hindsii</i>	Northern California black walnut	None	None	-	1B.1
Napa	<i>Trichostema ruygtii</i>	Napa bluecurls	None	None	-	1B.2
Napa	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
Napa	<i>Calandrinia breweri</i>	Brewer's calandrinia	None	None	-	4.2
Napa	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	None	None	-	4.2
Napa	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Napa	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Napa	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Napa	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Petaluma Point	<i>Circus cyaneus</i>	northern harrier	None	None	SSC	-
Petaluma Point	<i>Eremophila alpestris</i> actia	California horned lark	None	None	WL	-
Petaluma Point	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Petaluma Point	<i>Melospiza melodia</i> maxillaris	Suisun song sparrow	None	None	SSC	-
Petaluma Point	<i>Melospiza melodia</i> pusillula	Alameda song sparrow	None	None	SSC	-
Petaluma Point	<i>Melospiza melodia</i> samuelis	San Pablo song sparrow	None	None	SSC	-
Petaluma Point	<i>Falco columbarius</i>	merlin	None	None	WL	-
Petaluma Point	<i>Geothlypis trichas</i> sinuosa	saltmarsh common yellowthroat	None	None	SSC	-
Petaluma Point	<i>Laterallus jamaicensis</i> coturniculus	California black rail	None	Threat	FP	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Petaluma Point	<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	End	End	FP	-
Petaluma Point	<i>Asio flammeus</i>	short-eared owl	None	None	SSC	-
Petaluma Point	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Petaluma Point	<i>Acipenser medirostris</i>	green sturgeon	Threat	None	SSC	-
Petaluma Point	<i>Acipenser transmontanus</i>	white sturgeon	None	None	SSC	-
Petaluma Point	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None	SSC	-
Petaluma Point	<i>Hysterocarpus traski traski</i>	Sacramento-San Joaquin tule perch	None	None	-	-
Petaluma Point	<i>Hypomesus transpacificus</i>	Delta smelt	Threat	End	-	-
Petaluma Point	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Petaluma Point	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Petaluma Point	<i>Oncorhynchus mykiss irideus pop. 11</i>	steelhead - Central Valley DPS	Threat	None	-	-
Petaluma Point	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Petaluma Point	<i>Oncorhynchus tshawytscha pop. 13</i>	chinook salmon - Central Vall fall / late fall-run ESU	None	None	SSC	-
Petaluma Point	<i>Oncorhynchus tshawytscha pop. 6</i>	chinook salmon - Central Valley spring-run ESU	Threat	Threat	-	-
Petaluma Point	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Petaluma Point	<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None	-	-
Petaluma Point	<i>Erethizon dorsatum</i>	North American porcupine	None	None	-	-
Petaluma Point	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-
Petaluma Point	<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None	SSC	-
Petaluma Point	<i>Northern Coastal Salt Marsh</i>	Northern Coastal Salt Marsh	None	None	-	-
Petaluma Point	<i>Eleocharis parvula</i>	small spikerush	None	None	-	4.3
Petaluma Point	<i>Polygonum marinense</i>	Marin knotweed	None	None	-	3.1
Sears Point	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Sears Point	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Sears Point	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Sears Point	<i>Buteo swainsoni</i>	Swainson's hawk	None	Threat	-	-
Sears Point	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Sears Point	<i>Ardea alba</i>	great egret	None	None	-	-
Sears Point	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Sears Point	<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	-	-
Sears Point	<i>Melospiza melodia maxillaris</i>	Suisun song sparrow	None	None	SSC	-
Sears Point	<i>Melospiza melodia pusillula</i>	Alameda song sparrow	None	None	SSC	-
Sears Point	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Sears Point	<i>Passerculus sandwichensis alaudinus</i>	Bryant's savannah sparrow	None	None	SSC	-
Sears Point	<i>Riparia riparia</i>	bank swallow	None	Threat	-	-
Sears Point	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Sears Point	<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	SSC	-
Sears Point	<i>Sternula antillarum browni</i>	California least tern	End	End	FP	-
Sears Point	<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None	SSC	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Sears Point	<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threat	FP	-
Sears Point	<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	End	End	FP	-
Sears Point	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Sears Point	<i>Spirinchus thaleichthys</i>	longfin smelt	Cand	Threat	SSC	-
Sears Point	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Sears Point	<i>Andrena blennospermatis</i>	Blennosperma vernal pool andrenid bee	None	None	-	-
Sears Point	<i>Adela oplerella</i>	Opler's longhorn moth	None	None	-	-
Sears Point	<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None	-	-
Sears Point	<i>Speyeria callippe callippe</i>	callippe silverspot butterfly	End	None	-	-
Sears Point	<i>Speyeria zerene sonomensis</i>	Sonoma zerene fritillary	None	None	-	-
Sears Point	<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	End	End	FP	-
Sears Point	<i>Taxidea taxus</i>	American badger	None	None	SSC	-
Sears Point	<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None	SSC	-
Sears Point	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Sears Point	<i>Coastal Brackish Marsh</i>	Coastal Brackish Marsh	None	None	-	-
Sears Point	<i>Northern Coastal Salt Marsh</i>	Northern Coastal Salt Marsh	None	None	-	-
Sears Point	<i>Northern Vernal Pool</i>	Northern Vernal Pool	None	None	-	-
Sears Point	<i>Blennosperma bakeri</i>	Sonoma sunshine	End	End	-	1B.1
Sears Point	<i>Centromadia parryi ssp. parryi</i>	pappose tarplant	None	None	-	1B.2
Sears Point	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Sears Point	<i>Eleocharis parvula</i>	small spikerush	None	None	-	4.3
Sears Point	<i>Trifolium hydrophilum</i>	saline clover	None	None	-	1B.2
Sears Point	<i>Castilleja ambigua var. ambigua</i>	johnny-nip	None	None	-	4.2
Sears Point	<i>Chloropyron molle ssp. molle</i>	soft salty bird's-beak	End	Rare	-	1B.2
Sears Point	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Sears Point	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Sonoma	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Sonoma	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Sonoma	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Sonoma	<i>Taricha rivularis</i>	red-bellied newt	None	None	SSC	-
Sonoma	<i>Cypseloides niger</i>	black swift	None	None	SSC	-
Sonoma	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None	SSC	-
Sonoma	<i>Passerculus sandwichensis alaudinus</i>	Bryant's savannah sparrow	None	None	SSC	-
Sonoma	<i>Falco columbarius</i>	merlin	None	None	WL	-
Sonoma	<i>Spinus lawrencei</i>	Lawrence's goldfinch	None	None	-	-
Sonoma	<i>Riparia riparia</i>	bank swallow	None	Threat	-	-
Sonoma	<i>Coturnicops noveboracensis</i>	yellow rail	None	None	SSC	-
Sonoma	<i>Selasphorus rufus</i>	rufous hummingbird	None	None	-	-
Sonoma	<i>Syncaris pacifica</i>	California freshwater shrimp	End	End	-	-
Sonoma	<i>Oncorhynchus mykiss irideus pop. 8</i>	steelhead - central California coast DPS	Threat	None	-	-
Sonoma	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Sonoma	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Sonoma	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Sonoma	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Sonoma	<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	None	None	-	1B.2
Sonoma	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3
Sonoma	<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	None	None	-	1B.2
Sonoma	<i>Blennosperma bakeri</i>	Sonoma sunshine	End	End	-	1B.1
Sonoma	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Sonoma	<i>Harmonia nutans</i>	nodding harmony	None	None	-	4.3
Sonoma	<i>Hemizonia congesta</i> ssp. <i>congesta</i>	congested-headed hayfield tarplant	None	None	-	1B.2
Sonoma	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Sonoma	<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None	-	2B.3
Sonoma	<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None	-	1B.2
Sonoma	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Sonoma	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Sonoma	<i>Lilium rubescens</i>	redwood lily	None	None	-	4.2
Sonoma	<i>Sidalcea hickmanii</i> ssp. <i>napensis</i>	Napa checkerbloom	None	None	-	1B.1
Sonoma	<i>Calandrinia breweri</i>	Brewer's calandrinia	None	None	-	4.2
Sonoma	<i>Antirrhinum virga</i>	twig-like snapdragon	None	None	-	4.3
Sonoma	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Sonoma	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Sonoma	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Sonoma	<i>Horkelia tenuiloba</i>	thin-lobed horkelia	None	None	-	1B.2
Sonoma	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2

KEY FOR 9-QUAD LIST:

1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 = Rare, threatened, or endangered in California and elsewhere; fairly threatened in California
1B.3 = Rare, threatened, or endangered in California and elsewhere; not very threatened in California
2A = Presumed extinct in California, but extant elsewhere
2B.1 = Rare, threatened, or endangered in Calif., but more common elsewhere; seriously threatened in Calif.
2B.2 = Rare, threatened, or endangered in Calif., but more common elsewhere; fairly threatened in Calif.
2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.
3 = Plants about which we need more information (Review List)
3.1 = Plants about which we need more information (Review List); seriously threatened in California
3.2 = Plants about which we need more information (Review List); fairly threatened in California
3.3 = Plants about which we need more information (Review List); not very threatened in California
4.2 = Plants of limited distribution (watch list); fairly threatened in California
4.3 = Plants of limited distribution (watch list); not very threatened in California

SE/ST/SD=State Endangered/Threatened/Delisted

SSC=CDFW Species of Special Concern

WL=CDFW Watch List

FPE/FPT/FPD/FP=Federal Proposed Endangered/Threatened/Delisting

Thrt=Threatened

Cand=Candidate

SC/SCD=State Candidate for Listing/Delisting

SFP=State Fully Protected

FE/FT/FD=Federal Endangered/Threatened/Delisted

FC=Federal Candidate

End=Endangered

Prop=Proposed

APPENDIX B

WILDLIFE HABITAT RELATIONSHIPS SYSTEM RESULTS



CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
supported by the
CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP
and maintained by the
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
Database Version: 9.0

SPECIES SUMMARY REPORT

FE = Federal Endangered CF = California Fully Protected PT = Federally-Proposed Threatened CD = CDF Sensitive
FT = Federal Threatened CP = California Protected FC = Federal Candidate HA = Harvest
CE = California Endangered SC = California Species of Special Concern BL = BLM Sensitive
CT = California Threatened PE = Federally-Proposed Endangered FS = USFS Sensitive
Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	Species Name	Status	Native/Introduced	
B251	BAND-TAILED PIGEON		HA	NATIVE
B799	HARRIS'S SPARROW			NATIVE
M059	SONOMA CHIPMUNK			NATIVE
M116	CALIFORNIA MOUSE			NATIVE
M117	DEER MOUSE	SC		NATIVE
M134	CALIFORNIA VOLE	FE CE SC BL		NATIVE

Total Number of Species: 6

Query Parameters

Included Locations

Napa Co

Included Location Seasons

Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)

Annual Grassland, Coastal Oak Woodland, Lacustrine, Valley Foothill Riparian, Vineyard

Habitat Suitability Threshold

Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons

Migrant, Summer, Winter, Yearlong

Excluded Elements

Algae, Aquatics - Emergent, Aquatics - Submerged, Bank, Barren, Bogs, Brush Pile, Burrow, Campground, Carrion, Cave, Cliff, Cones, Duff, Dump, Fern, Grain, Insects - Flying, Insects - Terrestrial, Invertebrates, Invertebrates - Aquatic, Jetty, Kelp, Lakes, Layer - Shrub, Lichens, Lithic, Log - Large (hollow), Log - Large (rotten), Log - Large (sound), Log - Medium (hollow), Log - Medium (rotten), Log - Medium (sound), Mammals - Medium, Mammals - Small, Mine, Moss, Mud Flats, Nest Box, Nest Island, Nest Platform, Pack Stations, Reptiles, Riparian Inclusion, Rivers, Rock, Salt Ponds, Sand Dune, Shrub/agriculture, Shrub/water, Slash - Large (hollow), Slash - Large (rotten), Slash - Large (sound), Slash - Small, Snag - Large (rotten), Snag - Large (sound), Snag - Medium (rotten), Snag - Medium (sound), Snag - Small (rotten), Snag - Small (sound), Soil - Aerated, Soil - Friable, Soil - Gravelly, Soil - Organic, Soil - Saline, Soil - Sandy, Springs, Springs - Hot, Springs - Mineral, Steep Slope, Streams - Intermittent, Stump (rotten), Stump (sound), Talus, Tidepools, Transmission Lines, Tree/shrub, Trees - Fir, Trees - Pine, Vernal Pools, Water, Water - Fast, Water - Slow, Wharf

Included Species All Species Included

Included Special Statuses Native

APPENDIX C

POTENTIAL IMPACTS OF VINEYARD CONVERSION ON RAPTOR HUNTING HABITAT

Potential loss of raptor hunting habitat as a result of conversion of grasslands to vineyard is typically not addressed in the regulatory review of agricultural conversions of grassland. Regulatory agencies focus on birds in their “sensitive nesting state” which is interpreted during the review process to focus on the preservation of active nests. This avoids the problem of determining that a site needs to be protected because it has been visited by a bird with sensitive regulatory status (i.e. a parcel does not become sensitive habitat because a bald eagle has visited it). On the other hand, this approach avoids addressing the issue of possible cumulative habitat loss of foraging areas.

Little directly pertinent research has been conducted to address the effects of grassland conversion to vineyards in this region. A number of related studies assessing conversion to vineyard habitat have been conducted in the California Central Valley over the past 20 years⁵. However, these focus primarily on winter habitat of specific raptors of interest (northern harrier, Swainson’s hawk, and American kestrel). Other, more generalized studies that have been conducted in the mid-west and east⁶ address comparisons of cropland vs. rangeland. Most “knowledge” of this issue is anecdotal and based on intuitive assumptions regarding the value of natural vs. manmade habitats.

Based on a review of research available to us, the impact of converting grasslands to vineyard may vary depending on a number of factors. These would include: species addressed, season (winter vs. nesting habitats), and availability and diversity of surrounding habitats (raptors in particular have very large home ranges and foraging habitats are not necessarily correlated to nest proximity⁷). As an example, Osprey commonly use nest platforms miles away from the lakes where these fish-eating birds hunt.

Based on our experience within the region over the past 25+ years, all of the raptors found in natural habitats in this region are commonly present around vineyards and are common within the Napa Valley (which has undergone very dense conversion to vineyard habitat and has little grassland habitat remaining). We don’t know if these birds have maintained historic nesting habitat but incorporate broader home ranges to include remaining grasslands or if they have modified their diets to focus on small mammals and birds inhabiting vineyards. It seems likely that both of these behaviors may occur. It is clear that vineyard operators encourage the presence of raptors (particularly owls) through the placement of nest boxes. Apparently, the vine height and placement does not discourage the use of vineyards as foraging sites.

⁵ Swolgaard et al, “Foraging by Swainson’s Hawks in a Vineyard-Dominated Landscape”, Journal of Raptor Research 2008, 42(3):188-196,

⁶ Massey et al “Habitat Use by Foraging Harriers on Nantucket Island, Massachusetts” 2009 The Wilson Journal of Ornithology 121(4): 765-769

Williams et al, “A comparison of Raptor Densities and Habitat use in Kansas Cropland and Rangeland Ecosystems” Journal of Raptor Research 2000, 34:203-209

⁷ ibid footnote 2

The best response to this lack of knowledge is a quantitative, long-term, institutional study within the Napa Valley and/or northern wine country in general⁸. The study should focus on the change in prey species available between grassland and vineyard (perhaps a simple comparison of regional native grassland species vs. a listing of vineyard “pests”), and a comparison of raptor use of vineyard vs. grassland (for the full spectrum of raptor species in the region). Such a study would qualify as basic research that would be beyond the time, effort, and financial resources fundable by individual vineyard applicants.

With all of the above as a caveat, the grasslands available at the western end of the property support the introduced annual grasses and forbs common to grasslands throughout this region and are the same as those available to hunting raptors elsewhere in the Napa Valley. Without trapping studies, it is assumed that the same cross-section of raptor prey species is available here as in other local grasslands.

The question of whether the conversion of this grassland to vineyard will significantly, adversely impact local raptors may depend on species, the unique character of the surrounding habitats, the availability of prime nesting sites, and whether the affected raptors in this region of intense vineyard development have become accustomed to prey available in vineyard habitat.

⁸ Such studies should be “region specific” due to the significant differences in the amount of agricultural development, the cross-section of raptor species present and of types of habitat available. For example, the California Central Valley maintains extensive tracts of grassland and cropland (a habitat commonly hunted by raptors). The Napa Valley has little grassland left and now consists primarily of vineyard and residential development.