March 29, 2023

Annalee Sanborn
PPI Engineering
ASanborn@ppiengineering.com – *Sent via Email*

RE: Biological Analysis for Proposed Agricultural Reservoir at 2155 Duhig Road, Napa County (APN: 047-271-002)

Ms. Sanborn,

This letter provides biological analysis located at 2155 Duhig Road, Napa County, California (APN: 047-271-002). It is WRA's understanding that the Project is the construction of a 75 acre-foot offstream reservoir with a total footprint of 6.5 acres. The reservoir will be constructed from natural materials with a synthetic liner. A pipeline will enter the property from the east and be directly drilled under Huichica Creek; WRA analyzed the pipeline portion of the Project in a letter dated July 11, 2022 and issued to PPI Engineering.

METHODS

On March 24, 2023, a WRA biologist (author) visited the Study Area to map land cover, document plant and wildlife species, and evaluate on-site habitat for the potential to support special-status species. Prior to the site visit, I reviewed the following resources:

- Soil Survey of Napa County (USDA 1978, USDA 2023)
- Cuttings Wharf 7.5-minute U.S. Geological Survey quadrangle (USGS 2012)
- Contemporary aerial photographs (Google Earth 2023)
- Historical aerial photograph (NETR 2023)
- CNDDB (CDFW 2023)
- CNPS Inventory (CNPS 2023a)
- A Manual of California Vegetation, Online Edition (CNPS 2023b)

Database searches for special-status focused on the Sonoma, Napa, Mt. George, Sears Point, Cuttings Wharf, Cordelia, Petaluma Point, Mare Island, and Benicia USGS 7.5-minute quadrangles.

Following the remote assessment, I conducted a field review to document: (1) land cover types, (2) existing conditions and to determine if such provide suitable habitat for any special-status species, (3) if and what type of aquatic natural communities (e.g., wetlands) were present, and (4) if special-status species were present.

Following the remote assessment, the WRA biologists completed a field review on March 24, 2023 to document: (1) land cover types (e.g., terrestrial communities, aquatic resources), (2) existing conditions and to determine if such provided suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic natural communities (e.g., wetlands) were present,

and (4) if special-status species were present. The Study Area was reviewed for the presence of aquatic resources containing an ordinary high water mark (OHWM) and top of bank. Methods relied on the A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (Lichvar 2008) and Corps of Engineers Regulatory Guidance Letter 05-05 (Corps 2005). OHWM was delineated using topographical indicators as well as destruction of native terrestrial vegetation, shelving, and the presence of litter and debris. Top of bank is identified in the field by indicators such as benching and changes in vegetation.

RESULTS AND RECOMMENDATIONS

Land Cover Types

There are two land covers in the Study Area: ruderal grassland and a seasonal wetland swale. The grassland is dominated by weedy, non-native species such as wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), mouse barley (*Hordeum murinum*), and wild radish (*Raphanus sativus*). This grassland was a managed vineyard until 2021 or 2022; subsequently, it has been laid fallow with annual mowing and tilling in spring. Should the proposed reservoir not be constructed for some reason, the vineyard would be replanted under approved Napa County Erosion Control Plan (ECP) #P20-00169-ECPA. Ruderal grasslands are not considered sensitive by Napa County, California Department of Fish and Wildlife (CDFW), or other regulatory agencies; therefore, the reservoir and pipeline construction is not an impact to sensitive terrestrial land cover types.

The seasonal wetland swale emerges on the property and flows south; it is mapped on the USGS Quadrangle as a blueline stream and is displayed as such on the PPI Engineering Grading Plans for the proposed reservoir. The wetland swale appears to receive surface drainage from the adjacent uplands (i.e., ruderal grassland/fallow vineyard). The vegetation is dominated by hydrophytes including Italian rye grass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum*), and curly dock (*Rumex crispus*). At the time of the site visit, inundation and saturation were evident; therefore, meeting the hydric soils and wetland hydrology criteria. Consequently this swale is likely jurisdictional under Section 404 of the Clean Water Act. The proposed project is located entirely outside of the seasonal wetland swale; the proposed 55-foot buffer is sufficient to protect the wetland.

No further actions are recommended for the Study Area's land cover types.

Special-status Species

Plants: The Study Area has the potential to support nine special-status plants (see below), all of which would occur solely in the seasonal wetland. The annual mowing and tilling would preclude all other special-status plants.

- Henderson's bentgrass (*Agrostis hendersonii*); CRPR 3
- Alkali milk-vetch (*Astragalus tener* var. *tener*); CRPR 1B
- Sonoma sunshine (*Blennosperma bakeri*); FE, SE, CRPR 1B
- Johnny-nip (*Castilleja ambigua* ssp. *ambigua*); CRPR 4
- Dwarf downingia (*Downingia pusilla*); CRPR 2B
- Jepson's coyote thistle (*Eryngium jepsonii*); CRPR 1B
- Legenere (*Legenere limosa*); CRPR 1B
- Lobb's buttercup (*Ranunculus lobbii*); CRPR 4
- Saline clover (*Trifolium hydrophilum*); CRPR 1B

The 55-foot buffer will be sufficient to protect any potentially occurring special-status plants in the seasonal wetland swale. No further actions are recommended for special-status plants.

Wildlife: The Study Area has the potential to support one special-status wildlife (vernal pool fairy shrimp (*Branchinecta lynchi*) in the seasonal wetland swale. Non-status and special-status birds may forage in or around the Study Area but nesting structures (e.g., trees, shrubs) are lacking, and annual spring mowing/tilling precludes the opportunity for these organisms to nest in the Study Area. Likewise, there are no structures (e.g., trees, buildings) to provide maternity roosts for special-status bats. The annual mowing and tilling preclude the opportunity for fossorial wildlife (e.g., American badger (*Taxidea taxus*), western pond turtle (*Emy marmorata*)), as well as ground-nesting non-status and special-status birds. The seasonal wetland swale does not contain perennial or immediate flows to support fishes or perennial dependent aquatic organisms (e.g., California freshwater shrimp (*Syncaris pacifica*).

The 55-foot buffer will be sufficient to protect vernal pool fairy shrimp, if such are present in the seasonal wetland swale. No further actions are recommended for special-status wildlife.

Please contact me if you have questions or require additional information. Sincerely,

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Aaron Arthur
Associate Biologist
WRA, Inc.
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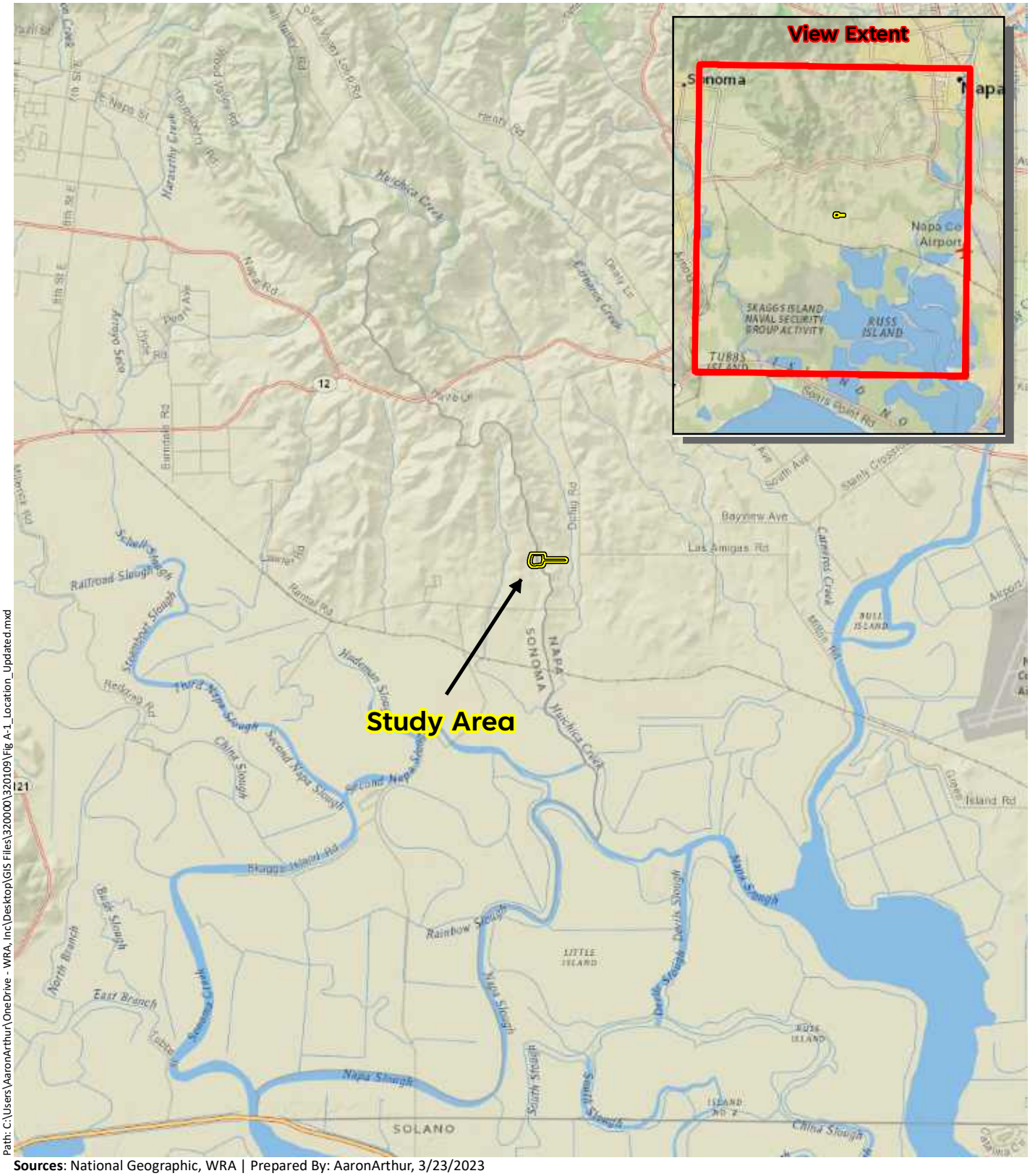
ENCLOSURES: Attachment A: Figure
Attachment B: Observed Species
Attachment C: Potential for Special-status Species to Occur



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Sources: National Geographic, WRA | Prepared By: AaronArthur, 3/23/2023

Figure A-1. Project Location

2155 Duhig Road
Napa County, CA

0 1 2 Miles

N

wra Environmental Consultants

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Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: AaronArthur, 3/23/2023

Figure A-2. Study Area & Project Area (Aerial 2016)

2155 Duhig Road
Napa County, CA

0 100 200 Feet

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Path: C:\Users\AaronArthur\OneDrive - WRA, Inc\Desktop\GIS FILES\320000\320109\Fig A-2_Reservoir.mxd

Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: AaronArthur, 3/23/2023

Figure A-3. Study Area & Project Area (Aerial 2022)

2155 Duhig Road
Napa County, CA

0 100 200 Feet

N

wra Environmental Consultants

Table B-1. Plant species observed in the Study Area, March 24, 2023

FAMILY	SCIENTIFIC NAME	COMMON NAME	LIFE FORM	ORIGIN	RARE STATUS[1]	INVASIVE STATUS[2]	WETLAND INDICATOR[3]
Apiaceae	*Torilis arvensis*	hedge parsley	annual forb	non-native	--	moderate	NL
Asteraceae	*Lactuca serriola*	prickly lettuce	annual forb	non-native	--	assessed	FACU
Asteraceae	*Senecio vulgaris*	old-man-of-spring	annual forb	non-native	--	--	FACU
Asteraceae	*Soliva sessilis*	bur weed	annual forb	non-native	--	--	NL
Brassicaceae	*Raphanus sativus*	wild radish	perennial forb	non-native	--	limited	NL
Fabaceae	*Trifolium dubium*	shamrock clover	annual forb	non-native	--	--	UPL
Fabaceae	*Trifolium subterraneum*	subterranean clover	annual forb	non-native	--	--	NL
Fabaceae	*Vicia sativa*	garden vetch	annual forb	non-native	--	--	FACU
Geraniaceae	*Erodium brachycarpum*	foothill filaree	annual forb	non-native	--	limited	NL
Myrsinaceae	*Lysimachia arvensis*	scarlet pimpernel	annual forb	non-native	--	--	NL
Plantaginaceae	*Plantago lanceolata*	English plantain	perennial forb	non-native	--	limited	FAC
Poaceae	*Aira caryophyllea*	silver hairgrass	annual graminoid	non-native	--	assessed	FACU
Poaceae	*Avena barbata*	wild oat	annual graminoid	non-native	--	moderate	NL
Poaceae	*Bromus diandrus*	rip-gut brome	annual graminoid	non-native	--	moderate	NL
Poaceae	*Bromus hordeaceus*	soft chess	annual graminoid	non-native	--	limited	FACU
Poaceae	*Festuca bromoides*	brome fescue	perennial graminoid	non-native	--	--	FACU
Poaceae	*Festuca perennis*	Italian rye grass	annual graminoid	non-native	--	moderate	FAC
Poaceae	*Hordeum marinum*	Mediterranean barley	annual graminoid	non-native	--	moderate	FAC
Poaceae	*Hordeum murinum*	mouse barley	annual graminoid	non-native	--	moderate	FACU
Polygonaceae	*Rumex crispus*	curly dock	perennial forb	non-native	--	limited	FAC

All species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012), *The Jepson Flora Project* (eFlora 2022), and *A Flora of Napa County* (Ruygt 2020); nomenclature follows *The Jepson Flora Project* (eFlora 2023) unless otherwise noted

Sp.: “species”, intended to indicate that the observer was confident in the identity of the genus but uncertain which species
Cf.: “*confer*” or “compared with”, intended to indicate a species appeared to the observer to be specific, but was not identified based on diagnostic characters

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2021a)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
LR	Locally Rare
CRPR 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B:	Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A:	Plants presumed extirpated in California, but more common elsewhere
CRPR 2B:	Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3:	Plants about which we need more information – a review list
CRPR 4:	Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2006)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Corps 2018)

OBL:	Almost always a hydrophyte, rarely in uplands
FACW:	Usually a hydrophyte, but occasionally found in uplands
FAC:	Commonly either a hydrophyte or non-hydrophyte
FACU:	Occasionally a hydrophyte, but usually found in uplands
UPL:	Rarely a hydrophyte, almost always in uplands
NL:	Rarely a hydrophyte, almost always in uplands
NI:	No information; not factored during wetland delineation

Table B-2. Wildlife species observed in and around the Study Area

SCIENTIFIC NAME	COMMON NAME
Birds	
Buteo jamaicensis	red-tailed hawk
Corvus corax	common raven
Sialia mexicana	western bluebird
Cathartes aura	turkey vulture

Table C. Potential for Special-status Species to Occur in the Study Area. List compiled from the CDFW BIOS database (CDFW 2023a), USFWS IPaC Report (USFWS 2023b), and CNPS Electronic Inventory (CNPS 2023a) searches. For plants, the Sonoma, Napa, Mt. George, Sears Point, Cuttings Wharf, Cordelia, Petaluma Point, Mare Island, and Benicia USGS 7.5' quadrangles were included in the search. For wildlife, the entirety of Napa County was considered.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
PLANTS				
Agrostis hendersonii Henderson's bentgrass	CRPR 3	Valley and foothill grassland, vernal pools; situated in mesic grasslands; wetland indicator: FACW/FACW. Elevation range: 225 – 995 feet. Blooms: April – June.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Allium peninsulare var. *franciscanum* Franciscan onion	CRPR 1B	Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from volcanics or serpentine; serpentine indicator: WI. Elevation range 170 – 985 feet. Blooms: May – June.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Amorpha californica var. *napensis* Napa false indigo	CRPR 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	**No Potential.** The Study Area does not contain chaparral, foothill woodland, or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Antirrhinum virga twig-like snapdragon	CRPR 4	Chaparral, lower montane coniferous forest; located on rocky openings often derived from serpentine; serpentine indicator: SI. Elevation range: 325 – 6550 feet. Blooms: June – July.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Arabis modesta modest rockcress	CRPR 4	Chaparral, lower montane coniferous forest; located on steep slopes, cliffs, and shaded canyons underlain by deep soils. Elevation range: 390 – 2600 feet. Blooms: March – July.	**No Potential.** The Study Area does not contain steep slopes in chaparral or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Astragalus tener var. *tener* alkali milk-vetch	CRPR 1B	Playas, vernal pools, valley and foothill grassland; located in vernal pools and similar wetlands/mesic areas on alkaline substrate. Elevation range: 0 – 195 feet. Blooms: March – June.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Balsamorhiza macrolepis big-scale balsamroot	CRPR 1B	Valley and foothill grassland, cismontane woodland; situated on rocky substrates, typically derived from metavolcanics, sometimes on serpentine substrate; serpentine indicator: SI. Elevation range: 295 – 3100 feet. Blooms: March – June.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Blennosperma bakeri Sonoma sunshine	FE, SE, CRPR 1B	Vernal pools, vernal swales, and mesic areas in valley grassland; highly restricted to the Santa Rosa Plain and Valley of the Moon. Elevation range: 35 – 360 feet. Blooms: March – April.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Blepharizonia plumosa big tarplant	CRPR 1B	Valley and foothill grassland; located on dry hills and plains in annual grasslands on clay to clay loam substrates, often in recently burned areas. Elevation range: 90 – 1645 feet. Blooms: July – October.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.
Brodiaea leptandra narrow-anthered brodiaea	CRPR 1B	Broadleaf upland forest, chaparral, lower montane coniferous forest; situated on gravelly soils derived from volcanics, particularly rhyolitic tuff, sometimes serpentine; serpentine indicator: WI. Elevation range: 360 – 3000 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain rocky volcanic chaparral or forest/woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Calandrinia breweri Brewer's Calandrinia	CRPR 4	Chaparral, coastal scrub; located on sandy or loamy substrate in areas often recently disturbed or burned. Elevation range: 30 – 3965 feet. Blooms: March – June.	**No Potential.** The Study Area does not contain chaparral or coastal scrub habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Calochortus pulchellus Mt. Diablo fairy-lantern	CRPR 1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation range: 90 – 2500 feet. Blooms: April - June	**No Potential.** The Study Area does not contain chaparral or foothill woodland habitat to support this species. Restricted to the Mount Diablo area, Contra Costa County.	**Not Present.** No further actions are recommended for this species.
Carex lyngbyei Lyngbye's sedge	CRPR 2B	Marshes and swamps; located in brackish or freshwater. Elevation range: 0 - 30 feet. Blooms April - August	**No Potential.** The Study Area does not contain coastal brackish or freshwater marsh habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Castilleja affinis ssp. *neglecta* Tiburon paintbrush	FE; ST; CRPR 1B	Valley and foothill grassland; located in grassy, open areas and rock outcrops underlain by serpentine substrate; serpentine indicator: SE. Elevation range: 195 – 1300 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain rocky serpentine grassland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Castilleja ambigua ssp. *ambigua* Johnny-nip	CRPR 4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation range: 0 – 1415 feet. Blooms: March – August.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Ceanothus confusus Rincon Ridge ceanothus	CRPR 1B	Closed-cone coniferous forest, chaparral, cismontane woodland; known from volcanic and serpentine substrate; typically situated on dry shrubby slopes; serpentine indicator: WI/IN. Elevation range: 245 – 3495 feet. Blooms: February – April.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ceanothus purpureus holly-leaved ceanothus	CRPR 1B	Chaparral, cismontane woodland; located on rocky, volcanic slopes. Elevation range: 395 – 3000 feet. Blooms: February – June.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ceanothus sonomensis Sonoma ceanothus	CRPR 1B	Chaparral; located on sandy serpentine or volcanic substrates; serpentine indicator: WI/IN. Elevation range: 705 – 2625 feet. Blooms: February – April.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Centromadia parryi ssp. *congdonii* Congdon's tarplant	CRPR 1B	Valley and foothill grassland; located on alkaline heavy white clay substrate. Elevation range: 0 – 750 feet. Blooms: May – November.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.
Centromadia parryi ssp. *parryi* pappose tarplant	CRPR 1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland; in vernally mesic sites, often with alkali substrate. Elevation range: 5 – 1380 feet. Blooms: May – November.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.
Centromadia parryi ssp. *rudis* Parry's rough tarplant	CRPR 4	Valley and foothill grassland, vernal pools; situated on vernally mesic sites underlain by alkaline soils, frequently seeps, swales, and roadsides. Elevation range: 0 – 330 feet. Blooms: May – October.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.
Chloropyron molle ssp. *molle* soft bird's-beak	FE, SR, CRPR 1B	Coastal brackish or salt marshes; located in low-growing saltgrass and picklweed mats. Elevation range: 0 – 10 feet. Blooms: June – November.	**No Potential.** The Study Area does not contain coastal brackish marsh habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Cicuta maculata var. bolanderi Bolander's water hemlock	CRPR 2B	Marshes and swamps; in coastal, fresh, or brackish perennial waters. Elevation range: 0 – 600 feet. Blooms: July – September.	**No Potential.** The Study Area does not contain perennial wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	CRPR 4	Chaparral; located in openings and situated on substrates often derived from serpentine; serpentine indicator: BE. Elevation range: 210 – 2115 feet. Blooms: April – July.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Dirca occidentalis western leatherwood	CRPR 1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland; located on brushy, mesic slopes in woodland and forest. Elevation range: 165 – 1285 feet. Blooms: January – April.	**No Potential.** The Study Area does not contain chaparral, foothill woodland, or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Downingia pusilla dwarf downingia	CRPR 2B	Valley and foothill grassland, vernal pools; located in mesic grassy sites, pool and lake margins. Elevation range: 3 – 1450 feet. Blooms: March – May.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Eleocharis parvula small spikerush	CRPR 4	Marshes and swamps. Elevation range: 5 – 9815 feet. Blooms: sometimes April, June – August, sometimes September.	**No Potential.** The Study Area does not contain perennial wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Erigeron biolettii Streamside daisy	CRPR 3	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest; on rocky, mesic. Elevation range: 95 – 3610 feet. Blooms: June – October.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Erigeron greenei Greene's narrow-leaved daisy	CRPR 1B	Chaparral; located on volcanic or serpentine substrate. Elevation range: 260 – 3270 feet. Blooms: May – September.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland or chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Eryngium jepsonii Jepson's coyote thistle	CRPR 1B	Valley and foothill grassland, vernal pools; situated on clay substrate that is vernally saturated. Elevation range: 10 – 975 feet. Blooms: April – August.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Erythronium helenae St. Helena fawn lily	CRPR 4	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland; located on volcanic or serpentine substrate; serpentine indicator: BE. Elevation range: 1135 – 3965 feet. Blooms: March – May.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Extriplex joaquiniana San Joaquin spearscale	CRPR 1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland; located on alkaline substrate. Elevation range: 0 – 2715 feet. Blooms: April – October.	**No Potential.** The Study Area does not contain alkaline wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Fritillaria liliacea fragrant fritillary	CRPR 1B	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland; located in grassy sites underlain by clay, typically derived from volcanics or serpentine; serpentine indicator: WI. Elevation range: 10 – 1335 feet. Blooms: February – April.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Harmonia nutans nodding harmonia	CRPR 4	Chaparral, cismontane woodland; located on rocky to gravelly substrates derived from volcanics. Elevation range: 240 – 3170 feet. Blooms: March – May.	**No Potential.** The Study Area does not contain rocky volcanic grassland, chaparral, or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Helianthella castanea Diablo helianthella	CRPR 1B	Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation range: 180 – 3900 feet. Blooms: March - June	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.
Hemizonia congesta ssp. congesta Hayfield tarplant	CRPR 1B	Coastal scrub, valley and foothill grassland; serpentine indicator: WI/IN. Elevation range: 65 – 1840 feet. Blooms: April – October.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.
Hesperolinon bicarpellatum Two-carpellate western flax	CRPR 1B	Chaparral; located on serpentine substrate; serpentine indicator: SE. Elevation range: 195 – 3270 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Hesperolinon breweri Brewer's western flax	CRPR 1B	Chaparral, cismontane woodland, valley and foothill grassland; typically located in serpentine grassland and serpentine chaparral underlain by rocky substrates; serpentine indicator: SI. Elevation range: 95 – 2925 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland, chaparral, or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Horkelia tenuiloba thin-lobed horkelia	CRPR 1B	Broadleaf upland forest, coastal scrub, valley and foothill grassland, chaparral; in mesic openings, on acidic sandy substrate. Elevation range: 165 – 1640 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain acidic sands underlying grassland, scrub, chaparral, or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Iris longipetala coast iris	CRPR 4	Coastal prairie, lower montane coniferous forest, meadows and seeps; located on mesic sites. Elevation range: 0 – 1950 feet. Blooms: March – May.	**No Potential.** The Study Area does not contain coastal prairie or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Isocoma arguta Carquinez goldenbush	CRPR 1B	Valley and foothill grassland; located on alkaline soils. Elevation range: 0 – 60 feet. Blooms: August – December.	**Unlikely.** Although the Study Area contains grasslands, this species is restricted alkali grasslands in Solano County.	**Not Present.** No further actions are recommended for this species.
Lasthenia conjugens Contra Costa goldfields	FE, CRPR 1B	Valley and foothill grassland, vernal pools, cismontane woodland; located in pools, swales, and depressions in mesic grassy sites underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June.	**Moderate Potential.** The Study Area contains seasonal wetlands that may support this species.	**Not Observed.** This species was not observed during protocol-level plant surveys. No further actions are recommended for this species.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	CRPR 1B	Freshwater and brackish marshes; typically located near or on slough margins, closely associated with cattail, tules, bulrushes, Baltic rush, California rose, and Suisun Marsh aster; known widely throughout Suisun Bay and Delta regions. Elevation range: 0 – 15 feet. Blooms: May – July, sometimes September.	**No Potential.** The Study Area does not contain coastal brackish marsh habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Legenere limosa legenere	CRPR 1B	Vernal pools; typically located in the deepest portions of pools. Elevation range: 3 – 2860 feet. Blooms: April – June.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Leptosiphon acicularis bristly leptosiphon	CRPR 4, LR	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; often located on shallow, rocky substrate in foothill positions. Elevation range: 175 – 4875 feet. Blooms: April – July.	**No Potential.** The Study Area does not contain rocky foothill grassland, chaparral, or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Leptosiphon jepsonii Jepson's leptosiphon	CRPR 1B	Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. Elevation range: 330 – 1640 feet. Blooms: April – May.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland, chaparral, or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lessingia hololeuca woolly-headed lessingia	CRPR 3, LR	Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; typically on clay, serpentine substrate; serpentine indicator: SI. Elevation range: 3 – 2885 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain rocky serpentine grassland, chaparral, or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Lilaeopsis masonii Mason's Lilaeopsis	SR, CRPR 1B	Freshwater and brackish coastal marshes, riparian scrub; located on channel banks in the splash zone on bare mud substrate. Elevation range: 0 – 35 feet. Blooms: April – November.	**No Potential.** The Study Area does not contain coastal brackish marsh habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lilium rubescens redwood lily	CRPR 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, North Coast coniferous forest; often located on serpentine or volcanic substrates, and along roadcuts; serpentine indicator: WI. Elevation range: 95 – 6210 feet. Blooms: April – September.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine grassland or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lomatium repostum Napa Lomatium	CRPR 1B	Chaparral, cismontane woodland; located on serpentine or volcanic substrates; serpentine indicator: SI. Elevation range: 290 – 2700 feet. Blooms: March – June.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lupinus sericatus Cobb Mountain lupine	CRPR 1B	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest; typically located in stands of knobcone pine-oak woodland, on open wooded slopes in gravelly substrate typically derived from volcanics, sometimes serpentine. Elevation range: 890 – 4960 feet. Blooms: March – June.	**No Potential.** The Study Area does not contain rocky volcanic chaparral, woodland, or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Monardella antonina ssp. *antonina* San Antonio hills monardella	CRPR 3	Chaparral, cismontane woodland. Elevation range: 1000 – 3280 feet. Blooms: June – August.	**No Potential.** The Study Area does not contain chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Monardella viridis green monardella	CRPR 4	Broadleaf upland forest, chaparral, cismontane woodland; situated on serpentine or volcanic soils; serpentine indicator: BE/SI. Elevation range: 325 – 3285 feet. Blooms: June – September.	**No Potential.** The Study Area does not contain rocky volcanic or serpentine chaparral, woodland, or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Polygonum marinense Marin knotweed	CRPR 3	Salt and brackish coastal marshes. Elevation range: 0 – 35 feet. Blooms: sometimes April, May – August, sometimes October.	**No Potential.** The Study Area does not contain coastal brackish marsh habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ranunculus lobbii Lobb's buttercup	CRPR 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernally wet areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Rhynchospora californica California beaked-rush	CRPR 1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Elevation range: 145 – 3315 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain perennial wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Senecio aphanactis chaparral ragwort	CRPR 1B	Cismontane woodland, chaparral, coastal scrub; located on drying alkaline flats. Elevation range: 45 – 2600 feet. Blooms: January – April.	**No Potential.** The Study Area does not contain chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	CRPR 1B	Chaparral; located on rhyolitic substrates. Elevation range: 1345 – 1985 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain rocky volcanic chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Spergularia macrotheca var. *longistyla* long-styled sand-spurry	CRPR 1B	Meadow and seep, marshes and swamps; located in alkaline marshes, pools, mud flats, meadows, and hot springs. Elevation range: 0 – 830 feet. Blooms: February – March.	**No Potential.** The Study Area does not contain alkaline wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Symphyotrichum lentum Suisun Marsh aster	CRPR 1B	Freshwater and brackish marshes and swamps; typically located on slough margins and edges, closely associated with cattail, tules, bulrushes, California rose, and Delta Tule pea. Elevation range: 0 – 10 feet. Blooms: May – November.	**No Potential.** The Study Area does not contain coastal brackish marsh habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Trichostema ruygtii Napa bluecurls	CRPR 1B, LR	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest; located in open, sunny locations, and dried vernal pools. Elevation range: 95 – 2210 feet. Blooms: June – October.	**No Potential.** The Study Area does not contain rocky volcanic grassland, chaparral, or woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Trifolium amoenum showy rancheria clover	FE, CRPR 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine; serpentine indicator: WI/IN. Elevation range: 15 – 1365 feet. Blooms: April – June.	**No Potential.** The degree of annual, repeated disturbance (tilling) and history (vineyard) of the site precludes the presence of this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Trifolium hydrophilum saline clover	CRPR 1B	Marshes and swamps, mesic portions of alkali vernal pools; mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June.	**Moderate Potential.** The Study Area contains a seasonal wetland (swale) that may support this species.	**Presence Unknown, No Impact.** The Project is located greater than 50 feet from potential habitat for this species and will not incur an impact. No further actions are recommended for this species.
Triteleia lugens dark-mouthed triteleia	CRPR 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, coastal scrub. Elevation range: 325 – 3250 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain chaparral or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Viburnum ellipticum oval-leaved viburnum	CRPR 2B	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June.	**No Potential.** The Study Area does not contain chaparral or foothill woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				
Antrozous pallidus pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**No Potential.** The Study Area does not contain structures (e.g., trees, buildings) to provide roosting habitat for this species.	**Not Present.** No further actions are recommended for this species.
Bassariscus astutus ringtail (ringtail cat)	SFP	Widely distributed throughout much of California. Found in a variety of habitats including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 4,600 ft. elevation. Typically uses cliffs or large trees for shelter.	**No Potential.** The Study Area does not contain woodland/forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Corynorhinus townsendii townsendii Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to disturbance	**No Potential.** The Study Area does not contain structures (e.g., trees, buildings) to provide roosting habitat for this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Eumops perotis californicus western mastiff bat	SSC, WBWG High	Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	**No Potential.** The Study Area does not contain structures (e.g., trees, buildings) to provide roosting habitat for this species.	**Not Present.** No further actions are recommended for this species.
Lasiurus blossevillii western red bat	SSC, WBWG High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. It is associated with broad-leaved tree species including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	**No Potential.** The Study Area does not contain structures (e.g., trees, buildings) to provide roosting habitat for this species.	**Not Present.** No further actions are recommended for this species.
Myotis thysanodes fringed myotis	WBWG High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Building, mines, and large trees and snags are important day and night roosts.	**No Potential.** The Study Area does not contain structures (e.g., trees, buildings) to provide roosting habitat for this species.	**Not Present.** No further actions are recommended for this species.
Myotis volans long-legged myotis	WBWG High	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices, buildings, mines, and caves are important day roosts.	**No Potential.** The Study Area does not contain structures (e.g., trees, buildings) to provide roosting habitat for this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Reithrodontomys raviventris salt marsh harvest mouse	FE, SE, SFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for dryland refugia during high tides.	**No Potential.** The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range.	**Not Present.** No further actions are recommended for this species.
Sorex ornatus sinuosus Suisun shrew	SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying vegetation cover, driftwood, and other litter above the mean high tide line for nesting and foraging.	**No Potential.** The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range.	**Not Present.** No further actions are recommended for this species.
Taxidea taxus American badger	SSC	Most abundant in drier open stages of most shrub, woodland, and herbaceous vegetation types. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	**Unlikely.** Although the Study Area contains herbaceous habitat, the degree of repeated and annual disturbance (tilling) and the history (vineyard) of the site likely precludes this species.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Birds				
Agelaius tricolor tricolored blackbird	SC (E), SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	**No Potential.** The Study Area does not contain perennial wetland (e.g., freshwater marsh) habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ammodramus savannarum grasshopper sparrow	SSC, LR	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	**Unlikely.** Although the Study Area contains herbaceous habitat, the degree of repeated and annual disturbance (tilling) and the history (vineyard) of the site likely precludes this species.	**Presumed Absent.** No further actions are recommended for this species.
Aquila chrysaetos golden eagle	BGEPA, SFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**No Potential.** The Study Area and immediate vicinity (500 feet) does not contain trees, cliffs, or similar elements necessary to provide nesting habitat for this species.	**Not Present.** No further actions are recommended for this species.
Ardea alba great egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	**No Potential.** The Study Area does not contain trees or groves to support roosting or nesting for this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Ardea herodias great blue heron	LR (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequested terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	**No Potential.** The Study Area does not contain trees or groves to support roosting or nesting for this species.	**Not Present.** No further actions are recommended for this species.
Asio flammeus short-eared owl	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	**Unlikely.** The Study Area does not contain roosting or nesting structures to support this species. This species may forage in the site.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Asio otus long-eared owl	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	**Unlikely.** The Study Area does not contain roosting or nesting structures to support this species. This species may forage in the site.	**Presumed Absent.** No further actions are recommended for this species.
Athene cunicularia burrowing owl	SSC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	**Unlikely.** Although the Study Area contains herbaceous habitat, the degree of repeated and annual disturbance (tilling) and the history (vineyard) of the site likely precludes this species. Additionally, this species is not known to nest in the Napa Baylands.	**Presumed Absent.** No further actions are recommended for this species.
Buteo swainsoni Swainson's hawk	ST	Summer resident in Central Valley and limited portions of the southern California interior. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	**Unlikely.** The Study Area does not contain roosting or nesting structures to support this species. This species may forage in the site, but potential nesting locations are greater than 500 feet from the project.	**Presumed Absent.** Surveys will be conducted in 2023; results will further inform the presence of this species in the greater vicinity. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Charadrius alexandrines nivosus western snowy plover	FT, SSC	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	**No Potential.** The Study Area does not contain remote, bare ground such as beaches or lake edges to provide nesting for this species.	**Not Present.** No further actions are recommended for this species.
Circus hudsonius northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	**Unlikely.** The Study Area may provide foraging habitat, but the annual tilling precludes nesting potential.	**Presumed Absent.** No further actions are recommended for this species.
Contopus cooperi olive-sided flycatcher	SSC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	**No Potential.** The Study Area does not contain conifer forest and/or extensive, dense woodland to support this species.	**Not Present.** No further actions are recommended for this species.
Coturnicops noveboracensis yellow rail	SSC	Summer resident in eastern Sierra Nevada in Mono County, breeding in shallow freshwater marshes and wet meadows with dense vegetation. Also a rare winter visitor along the coast and other portions of the state. Extremely cryptic.	**No Potential.** This species breeds east of the Sierra Nevada.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Cypseloides niger black swift	SSC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas. No modern nesting records in Napa County.	**No Potential.** The Study Area does not contain waterfalls, large cliffs, or sea-bluffs to support this species.	**Not Present.** No further actions are recommended for this species.
Egretta thula snowy egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense emergent vegetation (e.g., tules). Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	**No Potential.** The Study Area does not contain trees or groves to support roosting or nesting for this species.	**Not Present.** No further actions are recommended for this species.
Elanus leucurus white-tailed kite	SFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Unlikely.** The Study Area does not contain roosting or nesting structures to support this species. This species may forage in the site, but potential nesting locations are greater than 500 feet from the project.	**Presumed Absent.** No further actions are recommended for this species.
Falco peregrinus anatum American peregrine falcon	SE, SFP	Year-round resident and winter visitor. Occurs near water, including coastal areas, wetlands, lakes and rivers. Usually nests on sheltered cliffs or tall man-made structures. Preys primarily on waterbirds.	**No Potential.** The Study Area does not contain montane cliffs or very large man-made structures to provide nesting substrate for this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Geothlypis trichas sinuosa San Francisco (saltmarsh) common yellowthroat	SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**No Potential.** The Study Area does not contain perennial wetland (marsh) habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Haliaeetus leucocephalus bald eagle	BGEPA, SE, SFP	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs, and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**No Potential.** The Study Area does not contain large trees for nesting.	**Not Present.** No further actions are recommended for this species.
Icteria virens yellow-breasted chat	SSC, LR	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow (*Salix* ssp.), blackberry (*Rubus* spp.), and wild grape (*Vitis californicus*).	**No Potential.** The Study Area does not contain riparian habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lanius ludovicianus loggerhead shrike	SSC, LR	Year-round resident in open woodland, grasslands, savannah, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	**Unlikely.** The Study Area does not contain potential nesting structures (e.g., trees, shrubs) for this species. May forage in and around the Study Area.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Laterallus jamaicensis coturniculus California black rail	ST, SFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	**No Potential.** The Study Area does contain coastal brackish marsh to support this species.	**Not Present.** No further actions are recommended for this species.
Melospiza melodia samuelis San Pablo song sparrow	SSC	Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes.	**No Potential.** The Study Area does contain coastal brackish marsh to support this species.	**Not Present.** No further actions are recommended for this species.
Nycticorax nycticorax black-crowned night heron	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees but also in patches of emergent vegetation. Rookery sites are often on islands and usually located adjacent to foraging areas: margins of lakes and bays.	**No Potential.** The Study Area does not contain trees or groves to support roosting or nesting for this species.	**Not Present.** No further actions are recommended for this species.
Passerculus sandwichensis alaudinus Bryant's savannah sparrow	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas, including grasslands. Also uses drier, more upland coastal grasslands. Nests near the ground in taller vegetation, including along levees and canals.	**No Potential.** The Study Area does contain coastal brackish marsh to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Progne subis purple martin	SSC, LR	Summer resident. Inhabits woodlands and low-elevation coniferous forests. Nests in old woodpecker cavities and man-made structures (bridges, utility towers). Nest is often located in tall, isolated tree or snag.	**No Potential.** The Study Area does not contain woodland or forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Rallus obsoletus obsoletus California Ridgway's (clapper) rail	FE, SE, SFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans.	**No Potential.** The Study Area does contain coastal brackish marsh to support this species.	**Not Present.** No further actions are recommended for this species.
Riparia riparia bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Study Area does not contain forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Setophaga petechia brewsteri (Brewster's) yellow warbler	SSC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting is variable, but dense willow growth is typical. Occurs widely on migration.	**No Potential.** The Study Area does not contain riparian or wet meadow habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Spizella atrogularis black-chinned sparrow	LR	Summer resident. Typically occurs on arid, rocky slopes with brushy vegetation, e.g. mixed chaparral, and sagebrush.	**No Potential.** The Study Area does not contain chaparral or arid foothill woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Strix occidentalis caurina northern spotted owl	FT,ST, SSC	Year-round resident in dense, structurally complex forests, primarily those with stands of mature conifers. In Napa County, uses both coniferous and mixed (coniferous-hardwood) forests. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	**No Potential.** The Study Area does not contain forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Xanthocephalus xanthocephalus yellow-headed blackbird	SSC, LR	Summer resident. Breeds colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Requires abundant large insects such as dragonflies; nesting is timed for maximum emergence of insect prey.	**No Potential.** The Study Area does not contain perennial wetland (e.g., marsh, lake margin) habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Reptiles and Amphibians				
Dicamptodon ensatus California giant salamander	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	**No Potential.** The Study Area does not contain foothill/montane forest or dense woodland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Emys marmorata western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**Unlikely.** The Study Area's seasonal wetland does not have the expanse and depth of water to support this species. The ruderal grassland is annually tilled precluding potential nesting.	**Presumed Absent.** No further actions are recommended for this species.
Rana boylii foothill yellow-legged frog	SSC	Found in or near rocky streams in a variety of habitats; highly aquatic. Prefers partially-sunlit, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on invertebrates (aquatic and terrestrial).	**No Potential.** The Study Area or immediate vicinity (500 feet distance) does not contain perennial or intermittent streams to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Rana draytonii California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense emergent and/or overhanging riparian vegetation. Favors perennial to intermittent ponds, marshes, and stream pools. Requires 11 to 20 weeks of continuous inundation for larval development. Disperses through upland habitats during and after rains.	**Unlikely.** The Study Area's seasonal wetland does not provide water depth or expanse sufficient for breeding. The annual tilling likely precludes upland refugia for this species.	**Presumed Absent.** No further actions are recommended for this species.
Taricha rivularis red-bellied newt	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat, though other forest types (e.g., hardwood) are also occupied. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flows.	**No Potential.** The Study Area does not contain mesic forest habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Fishes				
Acipenser medirostris green sturgeon	FT, SSC	Spawns in the Sacramento River and Klamath Rivers, at temperatures between 8 and 14 degrees Celsius. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further actions are recommended for this species.
Eucyclogobius newberryi tidewater goby	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. Requires fairly still but not stagnant water and high oxygen levels.	**No Potential.** The Study Area does not contain brackish or estuarine waters.	**Not Present.** No further actions are recommended for this species.
Hypomesus transpacificus Delta smelt	FT, ST	Endemic to the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	**No Potential.** The Study Area does not contain estuarine waters.	**Not Present.** No further actions are recommended for this species.
Lampetra ayresi river lamprey	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Mylopharodon conocephalus hardhead	SSC	Known from mid-elevation streams in the Sacramento, San Joaquin, Napa River, and Russian River drainages. Prefer clear, deep pools with sand-gravel-boulder bottoms and slow water velocity.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further actions are recommended for this species.
Oncorhynchus mykiss irideus steelhead - central CA coast DPS	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further actions are recommended for this species.
Oncorhynchus tshawytscha Chinook salmon - California coastal ESU	FT	This ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 degrees C lethal to adults.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further actions are recommended for this species.
Spirinchus thaleichthys longfin smelt	FC, ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	**No Potential.** The Study Area does not contain riverine or estuarine waters.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Invertebrates				
Branchinecta lynchi vernal pool fairy shrimps	FT	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Moderate Potential.** This species may occur in the seasonal wetland.	**Presence Unknown, No Impact.** The Project is 60 feet or greater from the seasonal wetland obviating any potential impact to this species. No further actions are recommended for this species.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT	Known from the Central Valley and adjacent foothills, in riparian and oak savannah where elderberry (*Sambucus* sp.), the host plant, is present.	**No Potential.** Elderberry was not observed during the site visit; CNDDB occurrences are restricted to its southeastern-most portion (CDFW 2023a).	**Not Present.** No further actions are recommended for this species.
Speyeria callippe callippe Callippe silverspot butterfly	FE	Two populations are recognized, on San Bruno Mountain and the Cordelia Hills. Host plant is Johnny jump-up (*Viola pedunculata*), which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	**No Potential.** The Study Area is tilled annually likely precluding the larval host plant. Likewise, this species is restricted to low hills and montane settings.	**Not Present.** No further actions are recommended for this species.
Syncaris pacifica California freshwater shrimp	FE, SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**No Potential.** The Study Area does not contain perennial streams to support this species.	**Not Present.** No further actions are recommended for this species.

***Key to status codes:**

FC	Federal Candidate for Listing
FE	Federal Endangered
BGEPA	Bald and Golden Eagle Protection Act Species
FT	Federal Threatened
SC (E/T)	State Candidate for Listing (Endangered/Threatened)
SE	State Endangered
SFP	State Fully Protected Animal
SR	State Rare
SSC	State Species of Special Concern
ST	State Threatened
LR	Locally Rare as per Napa County Baseline Report
CRPR 1A	CNPS CRPR 1A: Plants presumed extinct in California
CRPR 1B	CNPS CRPR 1B: Plants rare, threatened or endangered in California and elsewhere
CRPR 2A	CNPS CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
CRPR 2B	CNPS CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3	CNPS CRPR 3: Plants about which CNPS needs more information (a review list)
CRPR 4	CNPS CRPR 4: Plants of limited distribution (a watch list)
WBWG	Western Bat Working Group High or Medium-high Priority Species

Potential to Occur:

No Potential: Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Unlikely: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:

Present:	Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.
Assumed Present:	Species is assumed to be present on-site based on the presence of key habitat components.
Assumed Present, No Impact:	Species assumed present; however, project activities will not have an impact on the species.
Presumed Absent:	Species is presumed to not be present due to a lack of key habitat components.
Not Present:	Species is considered not present due to a clear lack of any suitable habitat and/or local range limitations.
Not Observed:	Species was not observed during dedicated/formal surveys.
Presence Unknown:	Species has the potential to be present, but no dedicated surveys to determine absence/presence were performed.
Presence Unknown, No Impact:	Species has the potential to be present; however, project activities will not have an impact on the species.