ZENTNER and ZENTNER
Land Planning and Restoration

ALLIED PROPANE-NAPA PROPERTY
BIOLOGICAL ASSESSMENT

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February 2014

Prepared for
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SUMMARY

Introduction

This report assesses the biological and associated regulatory issues relevant to the development of the Allied Propane property (the Site), a partially developed and relatively well-disturbed property south of the city of Napa on the California State Route 12 near its conjunction with State Route 29.

The project site is approximately 3.1 acres of a 6.36-acre property, which lies in southern Napa County. The property is adjacent to an existent commercial developed site to the northwest. The site is bordered on the south and north by undeveloped, privately owned land and on the east by Devlin Rd, a frontage road to the Highways12 and 29.

Special Status Habitats

This assessment included a preliminary Section 404 (wetland) delineation; this has not yet been submitted to the Corps of Engineers (Corps) for verification. The delineation found that the site is almost entirely uplands--much of the site was filled with local soil almost two decades ago. There is a small area that supports a predominance of weakly hydrophytic (wetland) vegetation downslope of a heavily irrigated berm with ornamental plantings, however, there is no other watershed for this area of wetland vegetation and further investigation found that this area was fed by a broken irrigation pipe. As the wetland vegetation in this area is apparently supported entirely by artificial irrigation, it is not a wetland subject to the jurisdiction of the Corps of Engineers or the Regional Water Quality Control Board (RWQCB).

No other special status habitats (riparian woodlands, native grasslands, etc.) were found on the Allied Propane site. Coastal brackish marsh, northern vernal pools, and serpentine bunchgrass are found within a five mile radius of the site but are not found on-site.

Special Status Species

Forty special status species have been observed according to the CNDDB within 5 miles of the site, including 21 special status animals and 19 special status plants. Four of the animal species, the Swainson's hawk, ferruginous hawk, burrowing owl, and tricolor blackbird, have

been found within a one mile radius of the project site.

There is no likely Swainson's hawks nesting habitat on site and as discussed below. It is possible that the species could utilize an area of oak woodland across HWY12/29 but none have been seen here and there are no nest sightings in the State data base for this area. There have been five nests observed within one mile of the project site since 2007, two of which were observed in 2012. Accordingly, this species may use the project site as foraging habitat but it is poor quality foraging habitat and a very small part of the grasslands habitats in this area.

Of the other special status wildlife, ferruginous hawks may also utilize the project area for foraging, but do not nest in the area; no suitable nesting habitat is present for the tricolor blackbird, and burrowing owls are not likely to occur on-site due to an absence of squirrel burrows.

Six of the 19 plant species known from the environs (including dwarf downingia, Contra Costa goldfields, saline clover, legenere, showy rancheria clover and Napa bluecurls) have the potential to occur on-site due to their occurrence in similar habitats. These species all occur in or on the edges of vernal pools or similar moist areas. Although there are no vernal pools on site, the compacted nature of the disturbed soils resembles those that occur in vernal pools and these species could occur in this area. An additional survey in spring would resolve this issue. No other special status plant species are likely to occur on site due to the lack of suitable habitat.

Impacts and Mitigation

There are no special status habitats, such as wetlands or streams on-site and, accordingly, no impacts or requisite mitigation for these features.

Although special status birds, such as the Swainson's or ferruginous hawks, may forage on-site, they do no nest on or adjacent to the site. As the foraging habitat is very low quality due to the absence of squirrels or other ground nesting species, and there is a plenitude of grasslands in the region with an abundance of prey, development of this site is not likely to result in an impact to special status birds. However, note that a pre-construction survey for burrowing owls is recommended in case site conditions change before construction.

Six species of special status plants could occur on-site, although it is not likely, and surveys for these species should be completed in the spring as an extension of this assessment as winter (when this assessment was completed) is not an appropriate time to determine their presence.

I. INTRODUCTION

A. Purpose

This assessment is meant to: (1) complete a survey of site environmental conditions, including the presence of wetlands or other waters subject to the jurisdiction of the Corps under Section 404 of the Clean Water Act (CWA) and special status species (species listed by the relevant State and Federal agencies or recognized as of special status by local governments); and (2) identify potential biological impacts resulting from development; and (3) identify appropriate mitigation for impacts, if any.

B. Methodology

Biological resources in the project area and region were identified through literature reviews, analyses completed for the property and site surveys completed by Zentner and Zentner and others.

1. Literature Review

The literature review provided information on general biological resources, rare or otherwise special habitats, and on the distribution and habitat requirements of plant and animal species ("taxa") that have been reported from or are suspected to occur in the project vicinity. Zentner and Zentner files, Napa County data, and records of the California Natural Diversity Data Base (CNDDB) of CDFW; formerly California Department of Fish and Game or DFG, US Fish and Wildlife Service (USFWS) species lists, and California Native Plant Society (CNPS) were searched for information regarding the property and its vicinity.

2. Site Analyses

Zentner and Zentner completed site analyses over the period from January 11th through the 13th, and again on February 7, 2014. Site conditions were extremely dry with minimal vegetation cover due to limited annual rain. Generally, this is not an optimal period for site assessments. Assessment results reported here are based on site conditions that transcend weather patterns, *e.g.* certain special status species do not occur in annual grasslands and the site is predominantly grasslands, no matter the soil moisture levels.

II. SETTING

A. Location

The Allied Propane site is in southern Napa County, 5.1 miles south of Napa city center (**Figure 1**). The address is 221 Devlin Rd, which runs parallel to Hwy 12/29 as a frontage road. The proposed project area is directly adjacent to the existing Allied Propane Service facility.

B. Site Description

The entire Allied Propane property is roughly 6.36 acres, divided into a northern portion which is developed with parking, industrial building, and ornamental landscaping islands and a southern portion which is approximately 3.1 acres and currently undeveloped, although heavily disturbed by past actions. The adjacent industrial building has ornamental landscaping consisting of trees, such as maple (*Acer spp.*), Acacia (*Acacia spp.*), and redwood (*Sequoia sempervirens*) and low growing shrubs such as Juniper (*Juniperus spp.*), firethorn (*Pyracantha spp.*), and Oregon grape (*Mahonia spp.*). The project site, in which work will occur, is the approximately 3.1-acres undeveloped portion of the property, which has been previously graded, filled and disturbed. The site was covered in its entirety with fill material in the late 1980's and is dominated almost entirely by annual grassland. The site is framed on the northwest side by a parking lot and industrial development. On the west and south sides are open space, similar in plant composition and appearance to the project site. On the northeast side, the property abuts Devlin Rd/Frontage Rd.

The vegetation onsite is dominated by non-native, annual species, as listed below in Table 1.

Table 1
Dominant Vegetation

Common Name	***Scientific Name***
Italian ryegrass	*Festuca perenne*
Harding grass	*Phalaris aquatica*
Seaside barley	*Hordeum marinum*
Ripgut brome	*Bromus diandrus*
Bristly ox-tongue	*Helminthotheca echiodes*
Italian thistle	*Carduus pycnocephalus*
Common wild oats	*Avena fatua*
Soft brome	*Bromus hordeaceus*

C. Wildlife

Wildlife at the site appears limited to common suburban/rural species typically found in these settings. Mammals that would be expected to pass through the site would include coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and black-tailed jackrabbit (*Lepus californicus*). The coyotes and other predators, such as red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*), prey on the small mammals that are typically present on adjacent lands in the annual grasslands. However, this sit ehas been heavily disturbed and current prey would consist only of California vole (*Microtus californicus*) and pocket gopher (*Thomomys bottae),* which are difficult to catch due to their primarily underground existence. These small mammals forage on the seed and plant parts generated by the grasslands of the site. Other birds commonly found in this type of sparse grassland habitat include mourning dove (*Zenaida macroura*), white-tailed kite (*Elanus leucurus*), American crow (*Corvus brachyrhynchos*), northern flicker (*Colaptes auratus*), turkey vulture (*Cathartes aura*), killdeer (*Charadrius vociferous*), and American kestrel (*Falco sparverius*). Common reptiles likely present include western fence lizard (*Sceloperus occidentalis*), southern alligator lizard (*Gerrhonotus multicarinatus*), and gophersnake (*Pituophis melanoleucus*).

III. SPECIAL STATUS HABITATS

A. Wetlands and Other Waters

1. Introduction

"Wetlands" are defined by the Corps as areas periodically or permanently saturated by surface or groundwater that support vegetation adapted to life in saturated (hydric) soil. The Town uses the Corps definition of wetlands. "Other waters" are defined by the Corps to include ponded waters, tributaries or similar features that may contain minor amounts of wetland vegetation but that are predominantly open water; these are typically stock ponds or ephemeral/intermittent creeks in this region.

2. Methods

Technical standards for delineating wetlands and other waters have been developed by the Corps in its Wetlands Delineation Manual (Army Corps of Engineers, Environmental Laboratory, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss., 1987 ["Delineation Manual"]) and other regulations.

Wetlands are defined by the Corps Section 404 regulations as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions". Thus to be designated a wetland according to Corps regulation, a site must have a predominance of hydrophytic vegetation, evidence of hydric soils, and wetland hydrology under normal circumstances.

Other waters are defined based on water elevations and geomorphic features. In freshwater conditions, the boundary between uplands and other waters is the ordinary high water mark, which is roughly equivalent to the mean annual flood line. In tidal conditions, the boundary is set by the high tide line, roughly equivalent to mean high water.

3. Results

The site is predominantly uplands dominated by non-native annual grasses and forbs (broad-leaved species) (**Figure 2**). A small area downslope of a heavily irrigated frontage mound is dominated by a variety of annual species that are weakly hydrophytic, that is, they are considered wetland plants but not obligate wetland species[1]. There is no watershed upslope

[1] Wetland plants are divided, from wettest to driest, among Obligate (100 to 99% of their occurrences are in wetlands), Facultative Wetland (67 to 99% of their occurrences are in wetlands) and Facultative (33 to 67% of their occurrences are in wetlands) species. The vegetation in this small area is dominated by Facultative species.

of this area, aside from the irrigated mound and a conversation with the site manager indicated that the local irrigation lines had been broken several times.

Seasonal wetlands on nearby properties, such as the lands directly to the east, were dry and sere during this review and the vegetation still dormant. The vegetation in this small area on-site, on the other hand, was relatively lush and green and the soil underneath the area very moist. Accordingly, we requested that the landowner locate the local irrigation line and allow us to observe it. Doing so, we found that the line was indeed broken and leaking a considerable amount of water. Therefore, the predominance of wetland vegetation at this location is due to an irrigation line leak.

In its definition of wetlands, the Corps includes the term "under normal circumstances" and areas with a predominance of wetland vegetation sustained solely by artificial irrigation are not defined as wetlands for jurisdictional purposes.

B. Other Special Status Habitats

The CNDDB shows a number of special status habitats from the environs of the Site, including riparian woodlands, native grasslands, and related habitats. None of these were found on-site.

IV. SPECIAL STATUS SPECIES

A. Introduction

For the purposes of this assessment, "special-status" refers to those resources that meet one or more of the following criteria:

- Plant and animal species listed by the US Fish and Wildlife Service (USFWS) or CDFW as Threatened or Endangered; proposed for listing as Threatened or Endangered; or as a candidate for listing as Threatened or Endangered.
- Plant and animal species considered as "Endangered, Rare, or Threatened" as defined by Section 15380 of the CEQA Guidelines. Section 15380(b) states that a species of animal or plant is "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. A species is "rare" when either "(A) although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become Endangered if its environment worsens; or (B) the species is likely to become Endangered within the foreseeable future throughout all or a portion of its range and may be considered 'Threatened' as that term is used in the Federal Endangered Species Act" (ESA).
- Plants included on Ranks 1, 2, 3, or 4 of the California Native Plant Society (CNPS) or on lists maintained by local chapters of CNPS.
- Animal species designated as "Fully Protected", "Species of Special Concern," or "Special Animals" by the CDFW. Although these species have no legal status under the California Endangered Species Act (CESA), the CDFW recommends their protection as their populations are generally declining and they could be listed as Threatened or Endangered (under CESA) in the future or they are species considered by CDFW to the those of the "greatest conservation need" (CDFW 2009). "Special Animals" is a relatively recent and broad list developed by CDFW to encompass a number of other Federal, State, Local and Non-governmental Organization (NGO) lists of special status species. It includes, for example, species listed by the US Bureau of Land Management (BLM), species listed by the Western Bat Working Group (WBWG) or the International Union for the Conservation of Nature (IUCN).
- Birds designated by the USFWS as "Birds of Conservation Concern." Although these species have no legal status under the ESA, the USFWS recommends their protection as their populations are generally declining, and they could be listed as Threatened or Endangered (under ESA) in the future.

B. Methods

This assessment included a review of the USFWS and CDFW lists of special status animals and plants, the CNDDB occurrence records for the local quads and the CNPS's Inventory of Rare and Endangered Vascular Plants of California (Skinner & Pavlik 1994) and other sources reflecting the taxa noted above to define a list of special status species that could potentially occur on the project site or in the region. **Figures 3** and **4** show the CNDDB results for Site environs (the lands within 5 miles of the Site for, respectively, wildlife and plants. **Appendix A** includes a description of the various abbreviations for the species' status.

C. Results

The complete listing of potential special status species in this region included almost species of mammals, birds, herptiles (amphibians and reptiles), invertebrates and plants. All species that occur within five miles are discussed individually below. Table 2 summarizes all species, their relative occurrence, impacts and suggested mitigation, if any. The species with some potential to occur are noted in bold. The table is followed by a detailed description of the analysis.

Table 2
Special Status Species Results

Species	Habitat	Likelihood of Occurrence	Impact	Required Mitigation
Mammals				
American Badger	Within 5 miles, none observed on site.	Not likely	None	None
Pallid Bat	Within 5 miles, none observed on site.	Not likely	None	None
Salt-Marsh Harvest Mouse	Within 1.2 miles, no habitat	Not likely	None	None
Birds				
Golden Eagle	Within 2 miles, none observed on site.	Not likely	None	None
California Black Rail	Within 5 miles, no habitat	Not likely	None	None
California Clapper Rail	Within 5 miles, no habitat	Not likely	None	None
San Pablo Song Sparrow	Within 5 miles, no habitat	Not likely	None	None
Swainson's Hawk	Within 1 mile, potential foraging	Not likely, foraging quality very low	Less than significant	None

Species	Habitat	Likelihood of Occurrence	Impact	Required Mitigation
Western Burrowing Owl	Within 1 mile, no habitat	Not likely	None	None
Ferruginous Hawk (wintering)	Within 1 mile, potential foraging.	Not likely	None	None
Northern Harrier	Within 5 miles, no habitat	Not likely	None	None
Saltmarsh Common Yellowthroat	Within 5 miles, no habitat	Not likely	None	None
Tricolored Blackbird	Within 5 miles, no habitat	Not likely	None	None
Western Snowy Plover	Within 5 miles, no habitat	Not likely	None	None
Reptiles				
Western Pond Turtle	Within 2 miles, no habitat	Not likely	None	None
Amphibians				
California Red-legged Frog	Within 5 miles, no habitat	Not likely	None	None
Invertebrates				
Vernal Pool Fairy Shrimp	Within 5 miles, no vernal pools	Not likely	None	None
An Isopod	Within 5 miles, no habitat	Not likely	None	None
Fish				
Coast steelhead	No watercourses	Not likely	None	None
Plants				
Contra Costa Goldfields	Within 1 mile, no vernal pools	Some potential, need survey	Less than significant	None
Delta Tule-pea	Within 5 miles, no habitat	Not likely	None	None
Marin Knotweed	Within 5 miles, no habitat	Not likely	None	None
Mason's Lilaeopsis	Within 5 miles, no habitat	Not likely	None	None
Napa Bluecurls	Within 5 miles, no vernal pools	Some potential, need survey	Less than significant	None
Northern California Black Walnut	Within 5 miles, no habitat	Not likely	None	None
Oval-leaved	Within 2 miles, no			

Species	Habitat	Likelihood of Occurrence	Impact	Required Mitigation
Viburnum	habitat	Not likely	None	None
Saline Clover	Within 5 miles, no vernal pools	Some potential, need survey	Less than significant	None
San Joaquin Spearscale	Within 5 miles, no habitat	Not likely	None	None
Showy Indian Clover/ Showy Rancheria Clover	Within 5 miles, no habitat	Some potential, need survey	Less than significant	None
Soft Salty Bird's-beak	Within 5 miles, no habitat	Not likely	None	None
Suisun Marsh Aster	Within 5 miles, no habitat	Not likely	None	None
Tehama County Western Flax	Within 5 miles, no habitat	Not likely	None	None
Tiburon Paintbrush	Within 5 miles, no habitat	Not likely	None	None
Big-scale Balsamroot	Within 5 miles, no habitat	Not likely	None	None
Alkali Milk-vetch	Within 5 miles, no habitat.	Not likely	None	None
Dwarf Downingia	Within 1 mile, no vernal pools	Some potential, need survey	Less than significant	None
Hollyleaf Ceanothus	Within 5 miles, no habitat	Not likely	None	None
Legenere	Within 1 mile, no vernal pools	Some potential, need survey	Less than significant	None

1. *Mammals*

American Badger *(Taxidea taxus)*, Special Animal (CDFW: SSC)

American badgers range from southern Canada (British Columbia, Alberta, Saskatchewan, Manitoba, and southern Ontario), over a majority of the northern, western and central United States, and south to Puebla and Baja California, Mexico They are most abundant in drier, open stages of shrub, forest, and herbaceous habitats with friable soils where they can dig burrows.

There are two records (occurrence 203 and 301) of American badgers within the five mile radius of the site, as listed by the CNDDB. Badgers are not likely to occur on the Site as soils are relatively heavy clays and not amenable to large burrows. Additionally, no burrows large enough to host badgers were observed during the site reviews. Finally, the Site is adjacent to existing development and the highway and, if they occurred on-site, they would likely have been reported or observed.

Pallid Bat (*Antrozous pallidus*); Special Animal (BLM:S, CDFW:SSC, IUCN:LC, USFS:S, IUCN:LC)
The pallid bat, a special status bat species occurs within five miles of the site. It utilizes caves, buildings, snags, and crevices in rock faces and mature trees for night roosting, winter roosting (hibernacula), or nursery colony sites. Bats disperse to hibernacula during the winter and typically form nursery colonies in this region in early spring (February to March). They usually return to the same sites for nursery colonies unless significantly disturbed. Accordingly, there are two significant seasons for bats: the maternity season (spring/summer) when female bats raise young inside the roost, and the winter (from mid-October to mid-February) when bats are inactive (Tatarian, pers. comm.). However, both require a nesting or roosting site such as those described above.

According to CNDDB data, there have been six records (occurrences 44, 57, 58, 71, 73, and 223) of the Pallid bat within a five mile radius of the site. While it is possible that the pallid bat may use the site as a foraging area, this species is not likely to utilize the site as roosting habitat due to a lack of structures or other required habitat.

Salt-Marsh Harvest Mouse (*Reithrodontomys raviventris*) (IUCN:EN)

The salt marsh harvest mouse is endemic to salt marsh habitats within the San Francisco Bay Area. There are two distinct subspecies, the northern (*Reithrodontomys raviventris halicoetes*) and the southern (*Reithrodontomys raviventris raviventris*). Both subspecies are listed under endangered designation. The historic range is limited due to habitat loss and now exists in fragments. They are currently known to be found in the following locales: Sonoma Creek discharge, Alman Marsh, adjacent to Shollenberger Park in Petaluma, the Sausalito baylands, the San Rafael baylands, the San Francisco Bay slough in Alviso, and the Palo Alto baylands.

The salt marsh harvest mouse is found solely in salt marsh habitats, as it is dependent on plants species that thrive in salt water. Thick vegetative cover is crucial to the habitat of the mouse. Pacific swampfire (*Salicornia pacifica*) and Virginia glasswort (*Salicornia depressa*) are the preferred food source and habitat of the salt marsh harvest mouse. The species is able to tolerate high levels of salt in its diet and water supply, often drinking salt water when necessary.

There are four records (occurrence 27, 48, 119, and 146) of salt marsh harvest mouse within five miles of the project site, according to CNDDB data. The nearest is roughly 1.2 miles from the site, but occurred on the edge of a brackish waterway. The mouse is dependent on heavy plant cover provided by salt marsh species for protection from predators and for dietary needs. The salt marsh harvest mouse is not likely to be found on the site because its habitat is not found within the project site.

2. *Birds (nesting unless noted otherwise)*

Golden Eagle *(Aquila chrysaetos)* (USFWS:BCC , CDFW:FP)

Golden eagle has a wide range in the United States and is a resident and migrant throughout California, excluding the Central Valley. Its habitat typically includes foothills, mountain areas, sage-juniper flats, and desert, and the species utilizes secluded cliffs with overhanging ledges and large trees for cover. Nests are constructed on cliffs and in large trees in open areas.

The CNDDB contains one record (occurrence 82) of this species about two miles northwest of the site. Golden eagles would not nest on-site due to the absence of woodlands. While this eagle might possibly forage on-site, this is unlikely due to the proximity of residential and other development.

California Black Rail (*Laterallus jamaicensis coturniculus*) (IUCN:NT)

The California black rail is a small (12 to 15 cm), elusive, marsh-associated bird species. They are black to gray in body color with white speckles on the sides and back and a nape of dark brown. They have a relatively small black bill and red eyes. This rail is found in saltwater, brackish and freshwater marshes, with a preference for open tidal marshes dominated by a dense canopy of pickleweed (*Salicornia pacifica*).

The historic range of the California black rail extended from the San Francisco Bay up through the Sacramento-San Joaquin delta and south along the coast to Baja California and also included outlying areas like the Salton Sea and the Lower Colorado River. The species is currently found in remaining tidal marshes in the northern San Francisco Bay estuary, Tomales Bay, Bolinas Lagoon, the Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and the Lower Colorado River. It has also been found in inland freshwater sites in the Sierra Nevada foothills and in the Cosumnes River Preserve in South Sacramento County.

CNDDB data indicates that there have been two occurrences (occurrence 31 and 91) of the California black rail within five miles of the site. Both sightings were located in marsh or slough habitat southwest of the site. It is not likely that this species is found on the project site due to lack of tidal marsh habitat.

California Clapper Rail (*Rallus longirostris obsoletus*) (IUCN:EN)

The California clapper rail is a marsh-associated bird species endemic to the California. The bird is approximately 13 to 19 with slender bodies and long legs. The upper portions of the body are olive green and the lower are a lighter reddish-brown. White bars cross the flank of the bird and a white undertail is apparent when agitated. The bill is long and curves down slightly.

The current range of the California clapper rail limited to the marshes of the San Francisco estuary within San Mateo, Santa Clara, Alameda, Contra Costa, Solano, Napa, Sonoma, and Marin Counties. The preferred habitat of the species is emergent wetland vegetation such as pickleweed (*Salicornia pacifica*) and cordgrass (*Spartina spp.*). Today, the population is now found in both salt and brackish tidal marshes (Collins et al. 1994).

There are two records (occurrences 13 and 16) of the California clapper rail within a five-mile radius of the project site, according the CNDDB data. Both sighting were in tidal marsh slough habitat. It is not likely that this species is encountered on the site due to lack of appropriate habitat.

San Pablo song sparrow (*Melospiza melodia samuelis*) (CDFW:SSC)

The San Pablo song sparrow (*Melospiza melodia samuelis*) is one of three song sparrow subspecies located within the San Francisco Bay. It is found within the San Pablo Bay from Richmond to the southeastern end of the Bay and around the northern edge of the Bay to Tiburon with the highest densities found in the Petaluma Marsh and along the Petaluma River (Takekawa et al. 2006). This sparrow is also found in isolated patches of tidal salt marsh south of the Carquinez Strait and in and around San Rafael. It is non-migratory and breeds at the edge of bays and streams just above tidal flow (Walton 1975). It nests in brushy vegetation consisting of bulrush and pickleweed.

CNDDB data indicates that there have been two occurrences (occurrences 16 and 17) of the San Pablo song sparrow within five miles of the site. Both sightings were in marsh or slough habitats. It is not likely that this species is found on the project site due to the lack of appropriate tidal marsh habitat.

Swainson's Hawk (*Buteo swainsonii*) (IUCN:LC)

The Swainson's hawk is a large, long-winged species that ranges from 18 to 22 inches in height. It is an even, brown color on its upper parts and white below with a light brown breast. Its tail is banded and brown. Its wings are longer and more pointed than most hawks and soars with wings in a shallow V-shape (Woodbridge 1998).

The hawk nests in western North America from March to July and migrates to southern South America for the winter starting in August. This hawk is similar in size to the red tailed hawk (*Buteo jamaicencis*) and utilizes open habitats. Potential habitats include mixed and short grass grasslands with scattered trees, dry grasslands and meadows, agricultural fields, riparian areas, oak savannas, and juniper-sage flats (Woodbridge 1998).

The hawk forages for insects, small mammals including California voles (*Microtus californicus*), deer mice (*Peromyscus maniculatus*), and valley pocket gopher (*Thomomys bottae*), and birds by flying 100 to 300 feet above the habitat. The hawk is highly adapted to human

disturbance, unlike most other raptors, and they actively seek fields where activities including discing, mowing, flooding, and harvesting force small mammals from their burrows. The raptor may forage up to 18 miles from a nest but usually tries to minimize flight distance to prey while fledglings normally forage within 0.5 miles of the nest. Fledgling mortality is an important factor in the decline in population levels. Mortality may reach 80% among fledglings and is often at least 60% (Woodbridge 1998).

The Central Valley and the Great Basin support the majority of the California's Swainson's hawk populations. Historically, the species was found throughout the state, in bioregions such as the Southern Transverse Ranges, Central Coast Ranges, Central Valley, Great Basin, and Mojave-Colorado Desert. Typically the raptors nest in large native riparian trees in close proximity to agricultural land, which supports accessible prey. Swainson's hawk typically occurs in valley oak (*Quercus lobota*), Fremont cottonwood (*Populus fremontii*), black walnut (*Juglans hindsii*), and willows (*Salix ssp.*). Although the hawk will fly some distance from the nest tree to forage, most will seek foraging habitat near the nest. Consequently, the Central Valley population is clustered in areas where suitable nesting and foraging habitat occur together. The Swainson's hawk population has declined by 90% since the 1940's due primarily to loss of nesting habitat (Woodbridge 1998).

According to CNDDB data, there have been five occurrences (occurrences 1619, 1717, 1718, 1719, and 2621) of the Swainson's hawk within five miles of the site. All five sighting were also within the one mile radius of the project site and were recorded between the present and 2007. Nests were viewed during the five observations one in 2007, two in 2008, and two in 2012. While it is possible that this species could use the project site for foraging habitat, this is unlikely due to lack of ground-nesting small mammals that this species seeks as prey. CDFW identifies ideal foraging habitat as alfalfa, fallow fields, beet, tomato, and other low-growing row or field crops, dry-land and irrigated pasture, rice land (during the non-flooded period), and cereal grain crops (including corn after harvest) (CDFG 1994).

It is not likely that the species utilizes the site for either nesting either. The site contains just 2.5 acres of disturbed, non-native, annual grassland. There are 8 dense, ornamental redwoods and 14 ornamental maple cultivars about 20 feet in height on site. Although not in nesting season, these trees were surveyed for nesting on January and no bird activity was observed. On the East side of the site, across HWY 12/29, is a large ridge covered in mature native oak trees, which could provide suitable nesting sites although none were observed here and there are no sightings of nests in the CNDDB.

Western Burrowing Owl (*Athene cunicularia hypugaea*) (IUCN:LC, CDFW:SSC)

The western burrowing owl (*Athene cunicularia hypugaea*) is a small ground-dwelling owl that lives in open, dry grasslands, agricultural and range lands, and desert habitats associated with burrowing mammals (Zeiner et. al. 1990). The owl typically nests in old ground squirrel (*Spermophilus beecheyi*) or similar burrows for breeding, wintering, foraging, and migration stopovers. They have been known to occupy artificially constructed burrows. Burrowing owls

are commonly seen perching on fences or on mounds outside their burrows. The owl is a mostly opportunistic feeder and forages on level areas with short grass or bare ground. Grasshoppers, beetles, mice, ground squirrels, rats, and gophers comprise the majority of their diet, however, they may also feed on reptiles, young cottontails, amphibians, scorpions, bats, and birds. The owl tends to inhabit areas where food sources are stable and available year-round. They are migratory (leaving the breeding grounds in fall) but often return to the same nest sites in spring to lay eggs from late March to May.

The burrowing owl was once common throughout California but is now found mainly in the Central and Imperial Valleys (DeSante et al. 1997). Over 60% of the breeding pairs known to exist in the 1980's disappeared by the early 1990's. The population decline is due to predation by non-native species, small mammal controls in farmlands, and habitat loss. This species also has very low fledgling success rates (Trulio 1997).

According to the CNDDB database, there have been two occurrences (occurrences 935 and 1179) of the burrowing owl within a five mile radius of the project site. Occurrence 935 is within the one-mile radius of the project site. The deposition of fill soils over the site has resulted in hard-packed gravel approximately four to six inches below the soils surface. These hard packed soils are extremely difficult to dig through and make activity by burrowing animals difficult, thereby limiting the potential for the establishment of burrowing owl nests (the only burrows noted on the site were pocket gopher burrows.) These are shallow burrows due to the hard gravel substrate below. No ground squirrel burrows, which have been associated with burrowing owl activity, were observed on the site. Similarly, no burrows were found that were of the appropriate size and composition to house burrowing owls. Accordingly, burrowing owls are not likely to occur on-site as long as the current site conditions continue.

Ferruginous hawk (wintering) (*Buteo regalis)* (CDFW:SSC, IUCN:LC)

The ferruginous hawk is a large, narrow-winged hawk at approximately 23 to 25 inches in height. It winters in open habitats including deserts and grasslands between September and April in the Modoc Plateau, Central Valley, and Coast Ranges (Zeiner et al 1990) but it does not nest in California.

This hawk prefers low elevations and avoids canyons and forests (Bechard and Schmutz 1995). It forages over open areas for birds, reptiles, amphibians, mice and ground squirrels. It is an uncommon winter resident and migrant in northern California and a more common winter resident in southwestern California (Garrett and Dunn 1981). They commonly nest on rock outcrops and cliffs, in isolated trees or groves of trees, and in sparse riparian woodlands in grassland and shrub-steppe habitats (Bechard and Schmutz 1995).

According to the CNDDB, there has been one occurrence (occurrence 28) of a ferruginous hawk within one mile of the site. However, this species does not nest in California, and so it is not likely that this species will be affected by the project.

Northern harrier (*Circus cyaneus)* (CDFW:SSC, IUCN:LC)

The northern harrier (*Circus cyaneus*), formerly known as the marsh hawk, is a medium-sized raptor with long, narrow wings and tail. The species has a rectangular, white rump and owl-like facial disk. Adult males are pale gray above, with mostly white below and black wing tips. Females are generally larger and are brown above with brown-streaked breast. The species utilizes a wide variety of open habitats, with North American populations breeding from Alaska to eastern Canada, and south to southern California, Arizona, Kansas, and Virginia, and wintering from South America to southern Canada.

Breeding habitat includes fresh and brackish wetlands, open wet meadows and grasslands, shrub-steppe, desert sinks, areas along rivers and lakes, and crop fields (Grinnel and Miller 1944). The species commonly nests on the ground in shrubby vegetation at marsh edges but may also nest several miles from water (CNDDB).

There has been one occurrence (occurrence 29) of a northern harrier sighting within five miles of the project site, according to CNDDB. The bird was seen in close range to brackish wetland habitat. As the project site is a dry, annual grassland without breeding substrate (tall shrubs or low trees near marshes), this species is not likely to nest on-site.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) (CDFW:SSC, IUCN:LC)

Historically, confirmed breeding locations include Lake Merced, San Francisco County, and Coyote Creek, Alviso, and Milpitas in Santa Clara County. Currently that range is confined to vicinity of San Francisco Bay, from Tomales Bay, Marin County, and Napa Sloughs, southern Sonoma County, on the north, east to Carquinez Straight, and south to vicinity of San Jose, Santa Clara County (Grinnell and Miller 1944). The species is locally numerous in areas with extensive wetlands bordered by nearby riparian thicket. Breeding occurs in mid-March is habitat types described at woody swamp, brackish marsh, and freshwater marsh (Foster 1977). Nests are constructed in tules or other similar vegetation and often over open water. In brackish marsh, nests are found along the banks of sloughs or streams in vegetation including coyote bush (*Baccharis pilularis*), dock (*Rumex sp.*) mustard (*Brassica* sp.), yellow star thistle (*Centaurea solstitialis*), gum plant (*Grindelia sp.*) and tall grasses.

According the CNDDB, there have been 3 occurrences (occurrences 36, 37, 94, and 95) of the saltmarsh common yellowthroat within five miles of the project site. There have been no sightings within one mile of the site. As there is no breeding habitat, it is not likely that this site hosts this species.

Tricolored blackbird (*Agelaius tricolor*) (USFWS:BCC, CDFW:SSC, IUCN:EN)

The tricolored blackbird ranges in its breeding territory from throughout the western North

America, including southern Oregon, Washington, western Nevada and in central and Baja California. Both male and females of the species maintain a territory of one to 10 meters in size through the duration of the nesting season. Nests are constructed in dense stands of tule (*Typha sp.*), cattail (*Scirpus spp.*) or other dense marshland vegetation. They require protected nesting substrate and foraging areas within a few kilometers of the colony. Tricolored blackbirds venture to forage for insects and grain on irrigated pasture, dry rangeland, and dairy operations.

There have been four occurrences (occurrences 194, 203, 243, and 244) of the Tricolored blackbird, according to the CNDDB database. The occurrences were all in dense marsh habitat. It is not likely that the tricolored blackbird nests on-site as the site does not contain nesting habitat for the species.

Western snowy plover (*Charadrius alexandrinus nivosus*) (USFWS:T, CDFW:SSC, IUCN:LC)

The western snowy plover (*Charadrius alexandrinus nivosus*) is a small shorebird distinguished from other plovers (family Charadriidae) by its small size, pale brown upper parts, dark patches on either side of the upper breast, and dark gray to blackish legs. Snowy plovers weigh approximately 1.4 ounces and are about 6.25 inches long (Sibley 2001).

The Pacific coast population of the western snowy plover is defined as those individuals that nest beside or near tidal waters, and includes all nesting colonies on the mainland coast, peninsulas, offshore islands, adjacent bays and estuaries from southern Washington to southern Baja California, Mexico (USFWS 2001). Habitats used by nesting and non-nesting birds include sandy coastal beaches, salt pans, coastal dredged spoils sites, dry salt ponds, salt pond levees and gravel bars. Historic records suggest that nesting western snowy plovers were once more widely distributed in coastal California.

Fledging of late-season broods may extend into the third week of September throughout the breeding range. Nests typically occur in flat, open areas with sandy or saline substrates (USFWS 2001). Vegetation and driftwood are usually sparse or absent. The typical clutch size is three eggs but it can range from two to six.

Snowy plover chicks leave the nest within hours after hatching to search for food (USFWS 2001). They are not able to fly for approximately 4 weeks after hatching. Adult plovers do not feed their chicks, but lead them to suitable feeding areas. Adults use distraction displays to lure predators and people away from chicks. Adult plovers signal the chicks to crouch, with calls, as another way to protect them. They may also lead chicks, especially larger ones, away from predators. Most chick mortality occurs within 6 days after hatching.

The CNDDB database lists one occurrence (occurrence 121) of Western snowy plover within the five-mile radius of the project site. This sighting was in a marshy, slough habitat in close proximity to the bay. It is not likely that this species occurs on-site due to lack of suitable habitat.

3. *Reptiles*

Western Pond Turtle (*Emys marmorata*) (USFS:S, BLM:S, CDFW:SSC, IUCN:VU)

The western pond turtle is a small to medium species growing up to 8 inches in length. Once inhabiting an extensive portion of the west, it is now listed as vulnerable do to a decline in its range. It is found along the west coast from the Coast Ranges to the central valley in California, north into Washington and British Columbia. Isolated populations may also occur in Susanville, Ca, the Mojave Desert, and in Nevada in the Truckee, Carson, and East Walker Rivers. They have been found at elevations from sea level to over 5,900 ft.

The species is aquatic and is found in ponds, lakes, rivers, marshes, and irrigation ditches with abundant vegetation within woodlands, grasslands, or forests. They require logs, rocks, or exposed vegetation one which they bask in the sun.

CNDDB data indicates that they have been five sightings (occurrences 493, 494, 538, 552, and 584) of the western pond turtle within five miles of the project site, the closest of which are over two miles away. It is not likely the western pond turtle occurs on-site due to the lack of suitable habitat.

4. *Amphibians*

California red-legged frog (CRF) (*Rana aurora draytonii*) (USFWS:T, CDFW:SSC, IUCN:VU)

The CRF historically ranged from, in the north, Redding and Marin County, south to northern Baja California, essentially throughout lowland California (Jennings and Hayes 1994). Due to a variety of factors, including loss and modification of habitat, predation by the non-native bullfrog, and, possibly, water quality impacts, its range has been reduced to mostly isolated drainages within coastal ranges and near-coastal foothills. The USFWS notes that while the CRF once occupied 46 counties, it is now known from only 22, with the greatest concentrations in Monterey, San Luis Obispo and Santa Barbara Counties (USFWS 2002).

Young CRF (eggs, larvae, and tadpoles) are found almost exclusively in ponds (such as stock ponds) or very slowly moving water in creeks, ditches or similar habitat. Typically, these ponds or creeks are well vegetated (Zeiner et al 1988) but habitat may also consist of well-grazed stock ponds with little marsh vegetation (USFWS 2002). Young CRF generally do not occur in aquatic habitats that also contain bullfrogs (Jennings and Hayes 1989).

From late-November to late-April, adult CRF are typically found in or near breeding habitat, which consists of perennial or near-perennial, deep (greater than 2 foot) ponds, pools or similar habitats associated with dense riparian or marsh vegetation (Hayes and Jennings 1989, 1994, Jennings 1988). During rainy nights during this time, however, they may also be found up to 200-300 feet away from the aquatic habitat (Zeiner et al 1988). From late-spring

through fall, CRF will typically stay near aquatic habitat, but during the latter part of this period they may move away from the breeding locale into nearby moist locations.

Determining the location of CRF habitat is complicated by their movement away from relatively easily identified riparian and wetland habitats. Much of the movement ecology is still poorly understood (Jennings and Hayes 1994), but they appear to move significant distances at two times during a year. First, adults move between winter oviposition sites and spring and summer foraging habitat (Jennings and Hayes 1989). Frogs observed in upland habitat at night during winter rains may represent such movement, but new aquatic habitat may also be found and colonized during such periods of reduced water stress. Movement into upland riparian habitat at such time may also protect frogs from catastrophic injury and transport by floodwaters (Jennings and Hayes 1994). Second, CRF move into the shelter of riparian thickets during fall, when stream habitat is often much reduced (Rathbun et al. 1993). Such behavior appears to resemble estivation of amphibians like California tiger salamanders and spadefoots (Jameson 1981) but these amphibians also then exhibit distinct seasonal dormancy which the CRF, especially the coastal populations, do not exhibit. Their fall movement into shady habitats may simply represent retraherence (Porter 1972), the generalized shelter-seeking behavior of most amphibians that does not involve distinct seasonal dormancy.

According to the CNDDB, there have been three observations (occurrences 228, 896, and 1062) of CRF within five miles of the site. All three are located south of the site in wetlands or creeks. CRF are not likely to occur on the site as there is no breeding habitat on or near the site and CRF are not likely to move through or towards the site seeking summer habitat as there is no nearby breeding habitat.

5. Invertebrates

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) (USFWS:T, IUCN:VU)

The vernal pool fairy shrimp is freshwater crustacean species that endemic to California and Oregon and found solely in vernal pools. The range of the vernal pool fairy shrimp is limited to three areas in southern Oregon and 32 in California throughout the central valley and Coast Ranges, with a few outlying populations.

The shrimp are small and range in length from 0.43 to 0.98 inches. They are usually translucent but may be shaded white or orange. They have compound eyes, no carapace, and eleven pairs of legs, which they move in a wave-like motion to propel themselves. The species has a lifetime expectancy of roughly two months (January to March) that is tied directly to the water levels and temperature of the vernal pool. They can survive temperatures between 43 and 68 degrees F. The shrimp lay drought-resistant eggs before they die, which embed in the soil of the pools and hatch with inundation next winter.

The vernal pool fairy shrimp has been sighted in one occurrence (occurrence 232) within a five-mile radius of the project site, according to CNDDB data. Due to its ability to live only in

vernal pool ecosystems and because there are no vernal pool ecosystems or similar habitats on site, it is not likely that this shrimp species will be found on the project site. In addition, the wet area downslope of the irrigated berm does not support the unvegetated basins used by this species.

An isopod (*Calasellus californicus*)

The aforementioned species is an isopod found in freshwater habitats with known collections from a freshwater well and two springs. Male individuals are of males up to 6.2 mm in length with the body slightly more than five times longer than wide. The body is nearly uniform in width with a smooth surface and margins of segments fringed with setae.

According the CNDDB data, this species has been found in one occurrence (occurrence 3) within five miles of the site. This report was a historic data point. It is not likely that this isopod occurs on the site due to a lack of suitable habitat.

6. *Fish*

Central California coast steelhead (*Oncorhynchus mykiss irideus*) (USFWS:T)

This fish species is found along the south/central coast of California in perennial and intermittent streams, main channels, permanent tributaries, and lakes. It has been observed locally in the Carmel River from its mouth to the Los Padres dam and in Los Garzas, Hitchcock, and Robinson creeks.

According to the CNDDB database, steelhead has been observed twice (occurrences 4 and 19) within a five-mile radius of the project site. Both sightings were south of the project site and occurred within a network of sloughs. This species does not occur on the project site due to lack of suitable habitat. The site does not contain any rivers, streams, sloughs or lakes.

7. Plants

Contra Costa goldfields (*Lasthenia conjugens*) (USFWS:EN, CNPS:1B.1)

Contra Costa goldfields, a federally endangered and CNPS 1B listed species, is known from only 20 extant occurrences. Eleven of these occurrences are from areas east and south of the City of Fairfield in Contra Costa County. The species has also been recorded in Alameda, Napa, and Solano Counties and has been extirpated from Santa Barbara, Santa Clara, and Mendocino Counties. The species is found in vernal pools (Northern Basalt Flow, Northern Claypan, and Northern Volcanic Ashflow), swales, and moist depressions and flats in cismontane woodland and valley and foothill grassland between 0 and 470 meters elevation in clay or loam soils. Historical observations included many occurrences in the transition zone

between vernal pools and tidal marshes on the eastern side of the San Francisco Bay. Development, agriculture land conversion, overgrazing, non-native invasive plants, and creek channelizing threaten nearly all remaining populations of this species. Critical habitat for this species was declared in August 2003.

Contra Costa goldfields is a showy herb in the Asteraceae family. It grows to between 4 and 12 inches and has opposite, green leaves and an infrequently branched stem. The blooming period is from March through June and it has specialized adaptations to allow it to exist in vernal pools. The species is an annual, which allows it to complete its life cycle within the time period of vernal pool inundation and drying and also produces dormant seeds that allow them to survive through the dry summers until they can germinate when the winter rains come.

CNDDB indicates two occurrences of this species within a five mile radius of the project site. One of these occurrences in less than 1 mile from the site. It is possible that this species could be found on the project site as the site soils (compacted fill) resemble vernal pool soils, although it would not be visible this time of the year (January). A survey should be completed in the spring to verify that this species is not present on site.

Delta tule-pea (*Lathyrus jepsonii var. jepsonii*) (CNPS 1B.2)

Delta tule-pea is a perennial herb that is native and endemic to California. It is found in freshwater and brackish marshes along marsh and slough edges with distribution mainly restricted to the Sacramento/San Joaquin river delta. Racemes of 6 to 15 pink to pink-purple flowers bloom from May to July.

According to CNDDB data, there are 9 records (occurrences 4, 13, 14, 56, 89, 124, 125, 130, 161) of Delta tule-pea within a five mile radius of the project site. The closest occurrences were in a slough. It is unlikely that this project area will contain the species due to the lack of suitable habitat.

Marin knotweed (*Polygonum marinense*) (CNPS 3.1)

Marin knotweed is an annual, low-growing herb endemic to California. It is found in coastal salt and brackish marshes and swamps. It flowers from April to October. Marin knotweed is known from fewer than 20 locations in Marin, Napa, Solano, and Sonoma counties at elevations from zero to ten meters.

The CNDDB database notes two occurrences (occurrences 5 and 14) of the species within a five mile radius of the project site. Both sightings were in a marshy, slough area. It is not likely that this species will be found on the project site due to its lack of suitable habitat.

Mason's lilaeopsis (*Lilaeopsis masonii*) (CDFW:R, CNPS 1B.1)

Mason's lilaeopsis is found in freshwater and brackish marshes and riparian scrub in muddy or silty soil. It has been recorded in Barker Slough growing along muddy banks and intertidal mudflats.

According to CNDDB data, there is one record (occurrence 10) of Mason's lilaeopsis within five miles of the project site. It is unlikely that this species occurs on the project site due to lack of suitable habitat.

Napa bluecurls *(Trichlostemma ruygtii)* (CNPS 1B.2)

Napa bluecurls is an endemic herb in the Lamiaceae family that is only found in Napa County. It is found in open areas, generally on thin clay soils. The species blooms from June to October. (Lewis 2009)

There is one record (occurrence 2) of the listed species according to the CNDDB database that falls within the five-mile radius of the project site. This occurrence is roughly five miles northeast and in an undeveloped, hilly area. It is not likely that this species will be present on site. It is possible that this species would be present on the site due to similar habitats, but unlikely as it has not been previously recorded. However, because of similar soil types, a survey should be completed in the summer, between June and October, to verify that this species is not present on site.

Northern California black walnut (*Juglans hindsii*) (IUCN:VU, CNPS 1B.2)

This is a large native walnut, typically somewhat restricted to riparian conditions but occasionally growing in uplands. Its rarity is the result of loss of riparian habitat; presently only one large, native stand is considered extant. However, this tree is used as the rootstock for many commercial walnut operations (with English walnut as the crown species) and the native walnut is often seen as an escape in old orchards.

According to the CNDDB, the only observation of this species within five miles of the site is approximately four miles north (Occurrence 6). This species does not occur at the site; none have been observed and this species is observable at any time of year.

Oval-leaved viburnum (*Viburnum ellipticum*) (CNPS 2.3)

The oval-leaved viburnum is a shrub found in shaded riparian and oak-bay woodlands from the Bay Area to Washington. It is locally rare but resembles the typical garden viburnum with deciduous, oval leaves and a flat-topped inflorescence of many white flowers

According to the CNDDB, the closest observation (Occurrence 7) of this species to the site is almost two miles to the northeast, in a more hilly area. This species is not likely to occur at the site; there is no suitable habitat and this shrub has not been observed at the site.

Saline Clover *(Trifolium depauperatum var. hydrophilum)* (CNPS 1B.2)

The species has clover-like leaves with three leaflets 0.5 to 2 cm in length. The stipules of the upper leaves are tipped with bristles. The white-tipped, pink-purple flowers are 6.5 to 9 mm long and clustered in small heads that are 0.5 to 1.5 cm in diameter. The upper petal, or banner, appears inflated. It encloses the 2 to 3 mm long fruit (legume) as it ripens (Hickman 1993).

Saline clover is found in all central coast counties, from San Luis Obispo County to Sonoma County, except in San Francisco County. These counties include Alameda, Monterey, San Benito, San Luis Obispo, Napa, San Mateo, Santa Cruz, and Sonoma counties. Solano and Colusa are the only inland counties with reported occurrences of this species (CNPS 2008). It is found in marshes and swamps, valley and foothill grassland, and often surrounding vernal pools. It blooms from April to June.

There have been two records (Occurrences 13 and 35) of saline clover within a five-mile radius of the project site, according to the CNDDB database. Both occurrences are within two miles of the project site, although they are older records (1982). It is possible that this species could be found on the project site as the site soils (compacted fill) resemble vernal pool soils, although it would not be visible this time of the year (January). Therefore, a survey should be completed in the spring, between April and June, to verify that this species is not present on site.

San Joaquin spearscale (*Atriplex joaquiniana*) (CNPS 1B.2)

San Joaquin spearscale occurs along the western side of the Great Valley from Glenn County to Merced County. It is found in valleys of the inner Coast Ranges along alluvial fans and large flood basins, including the Livermore Valley. It is generally found at low elevations, but has been collected up to 1,055 feet above sea level. San Joaquin spearscale typically occurs in alkali grassland and alkali meadow, or on the margins of alkali scrub. It occurs on clay soils, often in areas of high alkalinity. San Joaquin spearscale is an annual herb between 1 and 3 feet tall (Hickman 1993). It blooms from April to October (California Native Plant Society 2005).

There has been one record (Occurrence 38) of San Joaquin spearscale within a five-mile radius of the project site, according to the CNDDB database. It is unlikely that this species would be present on the project site, as the soil is not alkaline.

Showy Indian clover/Showy rancheria clover (*Trifolium amoenum*) (USFWS:EN, CNPS 1B.1)

Showy Indian clover is an annual herb endemic to California. The species is erect in habit, with 2.5 cm, rounded flower heads in shades of purple with white-tipped petals (Beidleman, 2003). The range of this species consists of the southern North Coast Ranges, the north Central Coast and the San Francisco Bay area. It is found in coastal bluff scrub, and valley and foothill grasslands, sometimes with serpentine soils. The species usually occurs in wetlands, but is occasionally found in non-wetlands. It blooms from April to June.

According to the CNDDB database, there are three records (Occurrences 23, 24, and 38) of this species within a five-mile radius of the project site. It is possible that this species could be found on the project site as the site soils (compacted fill) resemble vernal pool soils, although it would not be visible this time of the year (January). A survey should be completed in the spring or early summer, between March and June, to verify that this species is not present on site.

Soft salty bird's-beak (*Chloropyron molle ssp. molle*) (USFWS:EN, CDFW:R, CNPS 1B.2)

Soft bird's beak is a hemiparasitic, perennial herb native to California. It is found in coastal salt and brackish marshes of the San Pablo and Suisun Bay regions. The species current range consists of scattered populations in Napa, Solano, and Contra Costa Counties, from Point Pinole and Fagan Slough marsh through the Carquinez Strait to Suisun Bay. Its bloom period is between July and November.

There have been three records (Occurrences 3, 8, and 30) of soft bird's beak within a five-mile radius of the project site. All three occurrences were in brackish, slough habitats. It is not likely that this species is present on site due to lack of appropriate habitat.

Suisun marsh aster (*Symphyotrichum lentum*) (USFWS:SSC, CNPS 1B.2)

The Suisun marsh aster is a rhizomatous, perennial herb that is native and endemic to California. It is found in freshwater marsh and brackish marsh habitats within the Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo Counties. This species blooms from May to November. It is similar in appearance to more common *Symphyotrichum chilense* species.

According to the CNDDB, there are two records (Occurrence 18 and 55) of Suisun marsh aster within a five-mile radius of the project site. It is not likely that the species will be found on the project site due to lack of appropriate habitat. As well, it is a perennial and would have been seen during the site surveys if it occurred on-site.

Tehama County western flax (*Hesperolinon tehamense*) (CNPS 1B.3)

Tehama County western flax is annual herb that is both native and endemic to California. This species occurs only in Glenn and Tehama Counties, but historically, included Alameda, Lake, Napa, and Stanislaus as well. It is found on chaparral and foothill woodland plant communities and has a strong affinity for serpentine soils. It is found between 380 and 1010 meters in elevation. Its period of bloom is from May to July. This species has alternate, linear leaves up to 1 ¼ inches long and yellow flowers with petals up to 5/16 inch branching from leaf nodes.

The CNDDB database lists one record (Occurrence 52) of this species occurring within a five-mile radius of the project site. However, this occurrence is historic, as the species is no longer present in the county; as well, the site does not provide suitable habitat. Therefore, it is not likely that this species is present on the project site.

Tiburon Paintbrush (*Castilleja affinis var. neglecta)* (USFWS: EN, CDFW:T, CNPS 1B.2)

Tiburon paintbrush is a hemiparasitic, perennial herb native to California. This species is currently found in small populations in Marin, Santa Clara, and Napa County. Six populations are found in Marin, with three on the Tiburon peninsula. In Napa County, the species is found in the American Canyon area. Santa Clara County contains two occurrences, one of which is the largest of all three counties. Tiburon paintbrush has a strict affinity for serpentine soil and is found within elevations of 250 and 1300 feet. The species produces yellow flowers within the window of April to July.

The CNDDB database lists one record (Occurrence 5) of the Tiburon paintbrush within a five-mile radius of the site. It is located roughly five miles to the southeast of the project site. This species would not occur on the project site due to lack of serpentine soil and appropriate elevation.

Big-scale balsamroot (*Balsamorhiza macrolepis*) (CNPS 1B.2)

The big-scale balsamroot is a perennial herb that is native to California and also found outside of the state, within the western United States. The plant from coarse, woody rootstock with multiple basal leaves, 4 to 18 inches long and 2 to 4 inches wide. It has yellow sunflower-like heads, 2 to 4 inches (5 to 10 cm) wide, on wand-like stems, 4 to 16 inches tall (Hickman 1993).

This species is found in the Northern Inner Coast Ranges, Sacramento Valley and Sierra Nevada Foothills in meadows to rock outcrops and grasslands to conifer stands, as well as on serpentine soils from approximately 100 to 3000 feet in elevation. It is most commonly found on slopes. It flowers from March to June (CNPS 2001).

According to the CNDDB database, there is one record (Occurrence 7) of this species occurring within the five-mile radius of the project site. The occurrence is located in a hilly

region to the south east of the project site. It is unlikely that this species will be found on the project site due to lack of suitable habitat. Big-scale balsamroot is also a conspicuous species and it was not viewed during the site analyses.

Alkali milk-vetch (*Astragalus tener var. tener*) (CNPS 1B)

Alkali milk-vetch is an annual herb that is native and endemic to California. The alkali milk-vetch is believed extant in Alameda, Merced, Napa, Solano, and Yolo counties. It is believed extirpated from Contra Costa, Monterey, San Benito, Sonoma, and Stanislaus counties (Keeler-Wolf *et al.* 1998).

It inhabits playas, edges of salt marshes, alkali meadows, clay soils supporting valley and foothill grasslands, and alkaline, vernal pools (CNDDB 2001). The vernal pool types in which it grows are northern basalt flow, northern claypan, northern hardpan, and northern volcanic ashflow (Sawyer and Keeler-Wolf 1995). It occurs in open, alkaline and vernally moist meadows from sea level to 200 feet in elevation. It usually occurs in wetlands, but is occasionally found in non-wetlands. Alkali milk-vetch is a delicate, sparsely hairy to smooth herb, growing one to twelve inches high. It produces two to twelve pink-purple flowers per inflorescence. Fruits are elongated legumes under an inch long. This species can be distinguished from all other species of *Astragalus* that occur in the same areas by its deflexed fruit stalks and smooth seeds (Liston 1992). This variety flowers from March through June (Skinner and Pavlik 1994).

There is one record (Occurrence 41) of alkali milk-vetch within a five mile radius of the project site, as listed by the CNDDB. This sighting, recorded in 1982, is roughly 1.2 miles northwest of the project site in a slough area on the north side of Highway 12/29. It is unlikely that this species will be found on the project site, though, due to lack of appropriate saline wetland habitat.

Dwarf downingia *(Downingia pusilla)* (CNPS 2.2)

Dwarf downingia is an annual herb in the bellflower family (Campanulaceae), It is 3 to 8 cm tall with small linear leaves and inconspicuous, radially symmetric flowers are less than 1 cm across. All other *Downingia* species, which have larger, showy, asymmetric flowers. The flowers, borne at the ends of branches, are white or blue with two small yellow spots near the throat (Hickman 1993).

This species occurs in vernal pools and at the edges of marshes, which are subject to long periods of inundation, such as sloughs and seasonal marshes. It is known in the northern central valley and north San Francisco Bay and blooms from March through May. It occurs with other rare wetland and vernal pool species such as alkali milk-vetch (*Astragalus tener* var. *tener*), legenere (*Legenere limosa*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), Heckard's peppergrass (*Lepidium latipes* var. *heckardii*) and little mouse-tail (*Myosurus*

minimus ssp. *apus*). It flowers March through May (Hickman 1993, CNDDB 2003, CNPS 2003). Dwarf downingia is found from Merced and Mariposa counties in the south to Tehama County in the north (CNPS 2003). Urbanization, development, agriculture, grazing, vehicles, and industrial forestry threaten the species.

The CNDDB data found two records (Occurrences 20 and 108) of dwarf downingia within a five-mile radius of the site. Both occurrences were within approximately one mile of the project site, but are older and may not reflect the current habitat of the area. It is possible that this species could be found on the project site as the site soils (compacted fill) resemble vernal pool soils, although it would not be visible this time of the year (January). A survey should be completed in the spring, between March and May, to verify that this species is not present on site as its native habitat resembles the fill conditions on-site.

Hollyleaf ceanothus (*Ceanothus purpureus*) (CNPS 1B.2)

Holly-leaved ceanothus is a shrub that is native and endemic to California. This species occurs in the Inner Coast Ranges, primarily in Napa County, but also in Mendocino, Solano, and Sonoma Counties. There largest population occurs near Mt George in Napa County. It is found in chaparral habitats with dry, rocky, volcanic slopes (Hickman 1993).

The species grows up to two meters in height, with oval-shaped, spiny leaves and inflorescences of clustered blue to purple flowers.

According to the CNDDB, there are seven records (Occurrences 9, 10, 11, 12, 13, 14, and 47) of this species within a five-mile radius of the project site. All of the sighting occurred to the northeast of the project site, in hillier, chaparral habitat. This species will not occur on the project site as it is not suitable habitat. This species was also not found during the site analyses.

Legenere (*Legenere limosa*) (CNPS 1B.1)

Legenere is an annual herb that is native and endemic to California. It is found in vernal pools and other similar moist habitats. It is considered an emergent aquatic or terrestrial species. Its range includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Stanislaus, and Yuba Counties. Several populations have been recorded in vernal pools within the Jepson Prairie Preserve. This species blooms from April to June.

There is one record (Occurrence 7) of legenere with one mile of the project site, as listed by the CNDDB database. This listing occurred alongside Suscol creek, a waterway that runs north-south into the slough network approximately a mile from the site, in 1982. It is possible that this species could be found on the project site as the site soils (compacted fill) resemble vernal pool soils, although it would not be visible this time of the year (January). A survey

should be completed in the late spring, between April and June, to verify that this species is not present on site.

D. Summary

There are 40 special status species that occur within a five-mile radius of the project site, including 21 animal species and 19 plant species. Four of the animal species, the Swainson's hawk, ferruginous hawk, burrowing owl, and tricolor blackbird, have been found within a one mile radius of the project site.

Regarding Swainson's hawks, there is no likely nesting habitat on site, and as previously mentioned, if it were in the immediate vicinity of the site, it's more likely that the species would utilize habitat across HWY12/29 in native oak woodland. This species may use the project site as foraging habitat but this would be very limited due to the poor quality of the prey conditions.

Ferruginous hawks may also utilize the project area for foraging, but do not nest in the area. No suitable nesting habitat is present for the tricolor blackbird, and thus no impacts will observed. No burrowing owls or burrowing owl nests were observed in the site visits; the soil is compacted and not likely habitat for burrowing owls.

Of the 19 plant species, six species could possibly occur on-site due to the resemblance between the site soils (compacted fill) and native vernal pool soils. This includes dwarf downingia, Contra Costa goldfields, saline clover, legenere, Napa blue curls and showy Rancheria clover. Additionally, these species are all annuals and would not be visible at the time of our surveys (January). Spring surveys are necessary to verify that the mentioned species are not present.

V. REGULATORY SETTING AND PERMITTING

A. Federal and State Regulation

1. US Army Corps of Engineers

The Corps is a federal agency within the Department of Defense. The Corps has jurisdiction over all navigable waters of the United States and has permit requirements to prevent unauthorized obstruction or alteration of these waters, including construction, excavation, or deposition of materials in, over, or under such waters or any work that would affect the course location, condition, or capacity of these waters. Section 404 of the Clean Water Act (CWA) authorizes the Corps to regulate any activity that fills wetlands or waters of the United States. Section 10 of the Rivers and Harbors Act authorizes the Corps to regulate any activity in navigable waters of the United States.

Generally, Corps permits are divisible among individual permits, nationwide permits (for relatively minor impacts, *e.g.* fills under 0.5 acres) and regional permits (for actions with minimal impacts but with regional elements, *e.g.* flood control maintenance throughout a specific County).

Notwithstanding the small area of hydrophytic vegetation supported by irrigation, there appear to be no wetlands on-site and, accordingly, no need for any Corps permit.

2. U.S. Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) has jurisdiction over federally listed Threatened and Endangered species under the federal Endangered Species Act (ESA). This act protects listed species from harm or "take," which is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An activity can be defined as a "take" even if it is accidental or unintentional.

An Endangered species is one which is considered in danger of becoming extinct throughout all or significant portions of its range. A Threatened species is one that is likely to become Endangered within the foreseeable future. In addition to Endangered and Threatened species, which are legally protected under the federal ESA, the USFWS maintains lists of candidate species and Birds of Conservation Concern. Species on these lists are not afforded the legal protection of ESA but are considered to be of special-status under CEQA.

Where projects that require federal approvals, such as Corps permits, may affect federally-listed species protected by the USFWS, the federal agency is required to consult with USFWS. Most commonly, where a development project is required to get a Corps permit, the Corps determines whether the project will affect federally-listed species. If the Corps determines that a project may affect federally-listed species, it initiates consultation with USFWS under Section 7 of the ESA.

There are no federally-listed species on-site and, accordingly, no need for consultation with USFWS.

3. U.S. National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) has jurisdiction over anadromous fish that are federally listed Threatened and Endangered species under the ESA. NOAA Fisheries also regulates Essential Fish Habitat (EFH) pursuant to the Fish and Wildlife Coordination Act of 1934.

Similar to the procedures described above for the USFWS, where projects that require federal approvals, such as Corps permits, may affect federally-listed species protected by NMFS, the federal agency is required to consult with NMFS. Most commonly, where a development project is required to get a Corps permit, the Corps determines whether the project will affect federally-listed species. If the Corps determines that a project may affect federally-listed species, it initiates consultation with NMFS under Section 7 of the ESA.

There are no federally-listed anadromous fish species on-site and, accordingly, no need for consultation with NMFS.

4. California Department of Fish and Wildlife

The California Department of Fish and Wildlife has jurisdiction over state-listed Threatened and Endangered species under the California Endangered Species Act (CESA). The state also maintains a list of wildlife identified as Species of Special Concern, Fully Protected Species and "Special Animals". Species on this list are not afforded the legal protection of the state ESA but are considered to be of special-status under CEQA.

Should the species result in the "take" of a state-listed Threatened or Endangered species, a permit would be required under Section 2081 of the California Endangered Species Act.

The CDFW also exerts jurisdiction over the bed and banks of watercourses according to the provisions of Section 1600 *et seq* of the Fish and Wildlife Code. A Streambed Alteration Agreement is typically required for the fill or removal of any material from a natural drainage. The jurisdiction of the CDFW generally extends to the top of a bank and also includes the outer edge of riparian canopy cover.

There are no state-listed species or watercourses on-site and, accordingly, no need for a permit from CDFW.

5. Regional Water Quality Control Board

Pursuant to section 401 of the CWA, projects that require a permit from the Corps under Section 404 must also obtain water quality certification from the Regional Water Quality

Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. Activities in wetlands or other waters that are outside of the jurisdiction of the Corps (*e.g.*, isolated wetlands, vernal pools, streams above the ordinary high water mark) may also be regulated by the RWQCB. Activities that lie outside of Corps jurisdiction but within the jurisdiction of the RWQCB may require the issuance of either individual or general Waste Discharge Requirement (WDRs) from the RWQCB.

Notwithstanding the small area of hydrophytic vegetation supported by irrigation, there appear to be no wetlands on-site and, accordingly, no need for a RWQCB permit.

VI. POTENTIAL IMPACTS AND MITIGATION

A. Significance Criteria

The California Environmental Quality Act (CEQA) and the CEQA Guidelines provide guidance in evaluating project impacts and determining which impacts can be termed "significant". CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which existed in the area affected by the proposed project". Under the CEQA Guidelines, a project's effects on biotic resources may be significant when the project would result in one or more of the following.

- "substantially reduce the habitat of a fish or wildlife species," including causing a fish or wildlife population to drop below self-sustaining levels or threatening to eliminate an animal community.

- "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS"

- "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites."

- "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan."

B. Less than Significant Impacts

The project will result in the loss of non-native annual grassland. While this habitat provides foraging and feeding habitat for a variety of common wildlife, the loss of this habitat is not a significant impact. There are large areas of this habitat nearby and the wildlife that use this habitat are fairly pervasive. The habitat is generally less healthy that those around it, as it was raised with fill in the late 1980's. The area is also abutted by the highway on the east side and an industrial area on the north. As such, there is little plant diversity and inadequate cover for animal species to stay in the area.

The limited numbers of these wildlife species, their ubiquitous character and the existence of alternative habitat in the region make this a less than significant impact.

C. Potentially Significant Impacts

There are no potentially significant impacts. Additional surveys are required for burrowing owls (prior to construction) as site conditions might change by the time construction starts and for six special status plant species to ensure that these are surveyed for during the appropriate season.

References

Bechard, M. J. and J. K. Schmutz. 1995. Ferruginous hawk (*Buteo regalis*). In The Birds of North America, No. 172 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, D.C.

Beidleman, Linda H. and Eugene N. Kozloff, *Plants of the San Francisco Bay Region*, University of California Press, Berkeley (2003)

California Department of Fish and Wildlife, 1986. Mammalian Species of Special Concern in California, American Badger. Found online at http://www.dfg.ca.gov/habcon/species/search_species.shtml

California Native Plant Society (CNPS). 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. *http://www.rareplants.cnps.org.* Accessed Tuesday, January 14, 2014.

Collins, J.N., J. Evens, and B. Grewell. 1994. A Synoptic Survey of the Distribution and Abundance of the California Clapper Rail (*Rallus longirostris obsoletus*) in the Northern Reaches of the San Francisco Estuary During the 1992 and 1993 Breeding Seasons. Final Report to Carl Wilcox, California Department of Fish and Wildlife, Yountville, CA.

De Sante, D. F., Ruhlen, E. D., Adamany S. L., Barton, K. M. 1997. A census of Burrowing Owls in central California. Raptor Res. Reports 9:38-48.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society. 407 pp.

Gilmore, Suzanne; CDFW. Telephone conversation, personal communication. January 16th, 2014.

Grinnell, J. and A.H. Miller. 1944. The Distribution of the Birds of California. Pacific Coast Avifauna Number 27. Copper Ornithological Club, Berkeley, California. Reprinted by Artemisia Press, Lee Vining, California; April 1986. 617 pp.

Hickman, J.C. Ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Lewis, Harlan. 2009. *Trichotema ruygtii* (Lamiaceae): A New Species From Napa County, California. The Department of Ecology and Evolutionary Biology, University of California, Los Angeles.

Reid, F. & Helgen, K. 2008. *Taxidea taxus*. In: IUCN 2013. IUCN Red List of Threatened Species. Version 2013.2. <www.iucnredlist.org>.

Sawyer, J. O., and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, Sacramento, California. 471 pages.

Skinner M. and B. Pavlik. 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, Special Publication, 5th ed., California Native Plant Society

Sibley, David A. 2001. National Audubon Society: The Sibley Guide to Birds. New York.

Stebbins, Robert C., and McGinnis, Samuel M. *Field Guide to Amphibians and Reptiles of California: Revised Edition* (California Natural History Guides) University of California Press, 2012.

Takekawa, John Y., Sacks, Benjamin N., Woo, Isa, Johnson, Michael L. and Wylie, Glenn D. 2006. Tidal Salt Marsh Fragmentation and Persistence of San Pablo Song Sparrows (*Melospiza melodia samuelis):* Assessing Benefits of Wetland Restoration in San Francisco Bay. Studies in Avian Biology No. 32:1-XXX

Trulio, L.A. 1997. Burrowing owl demography and habitat use at two urban sites in Santa Clara County, California. Pages 84-89 in J.L. Lincer and K. Steenhof, editors. The burrowing owl: its biology and management. Raptor Research Report No. 9. Raptor Research Foundation.

U.S. Fish and Wildlife Service. 1984. Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan. U.S. Fish and Wildlife Service, Portland, OR. 70 pp.

Walton, B.J. 1975. San Francisco Bay Region, Salt Marsh Song Sparrow Survey, 1974. California Department of Fish and Wildlife.

Woodbridge, B. 1998. Swainson's Hawk (*Buteo swainsoni*). *In* The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight.

Zeiner, D. C., W., F. Laudenslayer, Jr., K. E. Mayer, M. White. Editors. 1990. California's Wildlife. Volume III. Mammals. State of California, Department of Fish and Wildlife. Sacramento, California.

Zetterquist, D. 1978. The salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*) in marginal habitats. Wasmann J. Biology 12:135-153.

Appendix A

I. Federal

FE Federally-listed as endangered
FT Federally-listed as threatened
FPE Federally proposed for listing as endangered
BCC Birds of Conservation Concern (US Fish and Wildlife Service)
SOC Species of Concern (National Marine Fisheries Service)

II. State

SE State-listed as endangered
ST State-listed as threatened

III. California Department of Fish and Game

CFP Fully protected
CSC California species of special concern
SA Special Animals
DFG_WL Watch List (new 6/28)

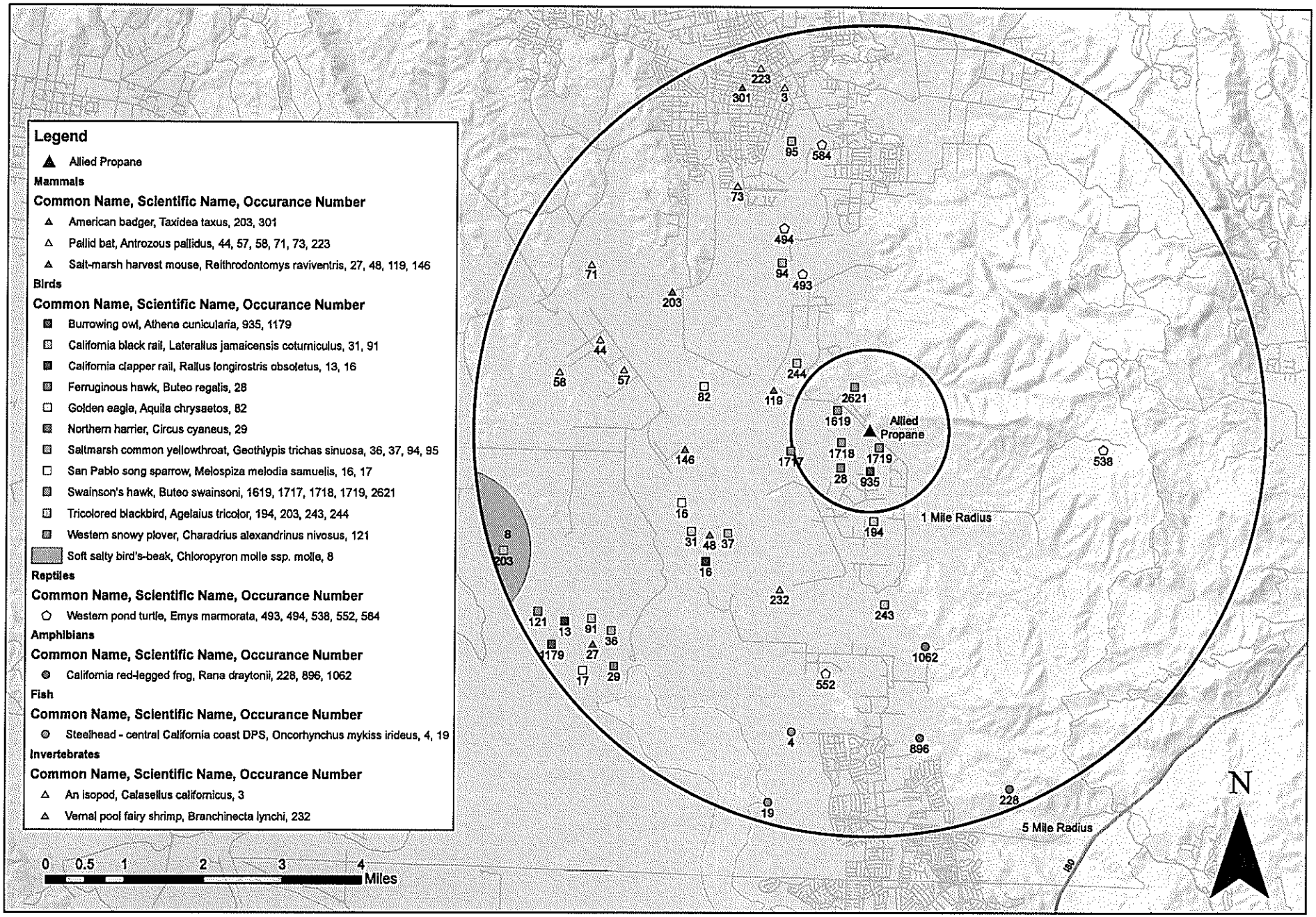
IV. California Native Plant Society

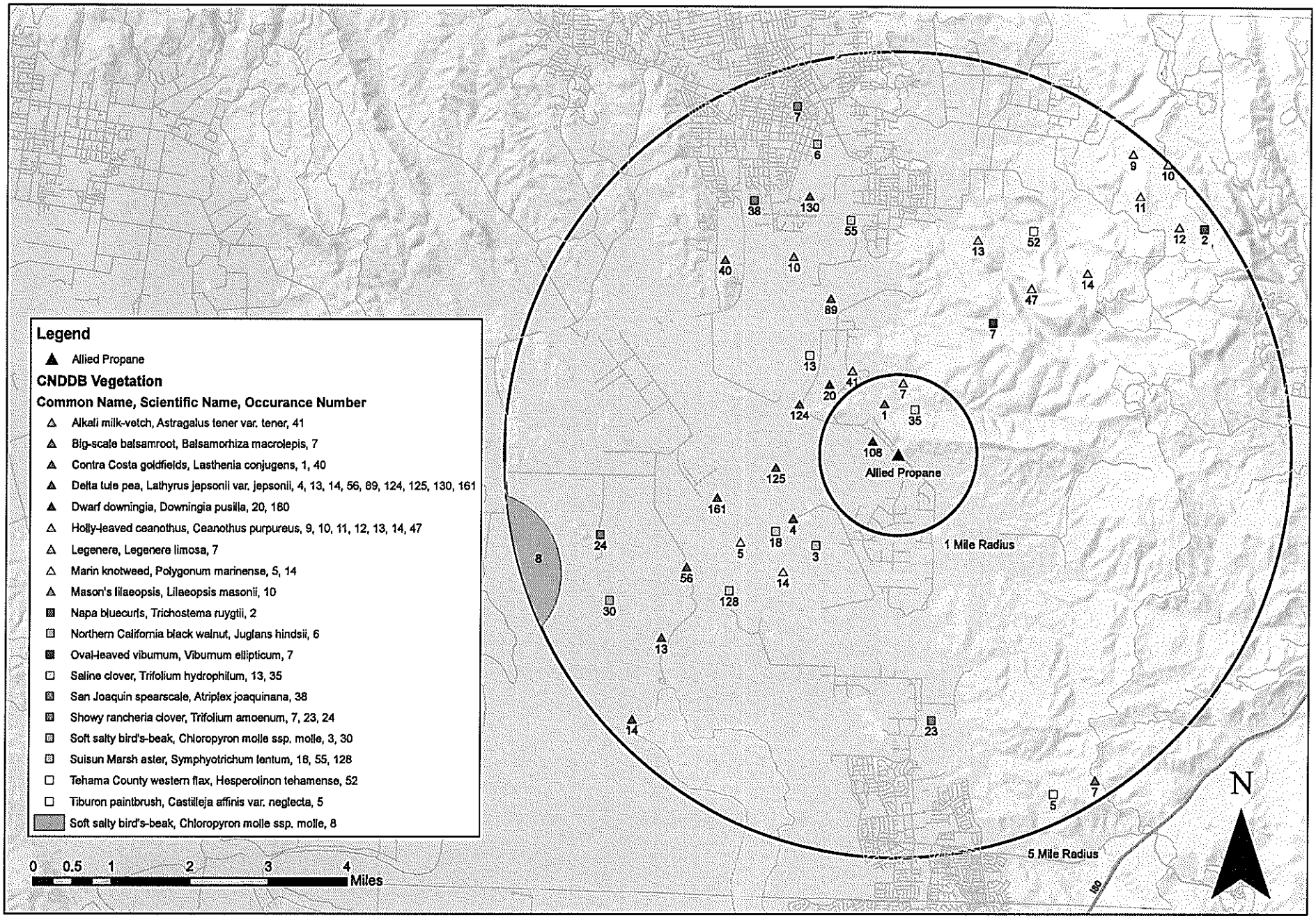
CRPR California Rare Plant Rank
(Identified as rare by the California Native Plant Society but with no other special status)

Special Animals (new 6/28)

IUCN_CD Conservation Dependent
INCN_CR Critically Endangered
INCN_DD Data Deficient
IUCN_EN Endangered
IUCN_LC Least Concern
IUCN_NT Near Threatened
IUCN_VU Vulnerable
MMC_SSC Marine Mammal Commission – Species of Special Concern (was SOC)
NMFS_SC National Marine Fisheries Service – Species of Special Concern

USFS_S U.S Forest Service – Sensitive
USFWS_BCC U.S Fish and Wildlife Service Birds of Conservation Concern (was BCC)


Legend
Allied Propane
Mammals
Common Name, Scientific Name, Occurance Number
American badger, Taxidea taxus, 203, 301
Pallid bat, Antrozous pallidus, 44, 57, 58, 71, 73, 223
Salt-marsh harvest mouse, Reithrodontomys raviventris, 27, 48, 119, 146
Birds
Common Name, Scientific Name, Occurance Number
Burrowing owl, Athene cunicularia, 935, 1179
California black rail, Laterallus jamaicensis coturniculus, 31, 91
California clapper rail, Rallus longirostris obsoletus, 13, 16
Ferruginous hawk, Buteo regalis, 28
Golden eagle, Aquila chrysaetos, 82
Northern harrier, Circus cyaneus, 29
Saltmarsh common yellowthroat, Geothlypis trichas sinuosa, 36, 37, 94, 95
San Pablo song sparrow, Melospiza melodia samuelis, 16, 17
Swainson's hawk, Buteo swainsoni, 1619, 1717, 1718, 1719, 2621
Tricolored blackbird, Agelaius tricolor, 194, 203, 243, 244
Western snowy plover, Charadrius alexandrinus nivosus, 121
Soft salty bird's-beak, Chloropyron molle ssp. molle, 8
Reptiles
Common Name, Scientific Name, Occurance Number
Western pond turtle, Emys marmorata, 493, 494, 538, 552, 584
Amphibians
Common Name, Scientific Name, Occurance Number
California red-legged frog, Rana draytonii, 228, 896, 1062
Fish
Common Name, Scientific Name, Occurance Number
Steelhead - central California coast DPS, Oncorhynchus mykiss irideus, 4, 19
Invertebrates
Common Name, Scientific Name, Occurance Number
An isopod, Calasellus californicus, 3
Vernal pool fairy shrimp, Branchinecta lynchi, 232
0 0.5 1 2 3 4 Miles
223
301
3
95
584
73
494
71
94
493
203
44
244
58
57
82
119
2621
1619
Allied Propane
1718
1719
146
1717
28
935
538
16
1 Mile Radius
194
8
203
31
48
37
16
232
243
121
13
91
36
1179
27
1062
17
29
552
4
896
19
228
5 Mile Radius
N


Legend
Allied Propane
CNDDB Vegetation
Common Name, Scientific Name, Occurance Number
Alkali milk-vetch, Astragalus tener var. tener, 41
Big-scale balsamroot, Balsamorhiza macrolepis, 7
Contra Costa goldfields, Lasthenia conjugens, 1, 40
Delta tule pea, Lathyrus jepsonii var. jepsonii, 4, 13, 14, 56, 89, 124, 125, 130, 161
Dwarf downingia, Downingia pusilla, 20, 160
Holly-leaved ceanothus, Ceanothus purpureus, 9, 10, 11, 12, 13, 14, 47
Legenere, Legenere limosa, 7
Marin knotweed, Polygonum marinense, 5, 14
Mason's lilaeopsis, Lilaeopsis masonii, 10
Napa bluecurls, Trichostema ruygtii, 2
Northern California black walnut, Juglans hindsii, 6
Oval-leaved viburnum, Viburnum ellipticum, 7
Saline clover, Trifolium hydrophilum, 13, 35
San Joaquin spearscale, Atriplex joaquinana, 38
Showy rancheria clover, Trifolium amoenum, 7, 23, 24
Soft salty bird's-beak, Chloropyron molle ssp. molle, 3, 30
Suisun Marsh aster, Symphyotrichum lentum, 18, 55, 128
Tehama County western flax, Hesperolinon tehamense, 52
Tiburon paintbrush, Castilleja affinis var. neglecta, 5
Soft salty bird's-beak, Chloropyron molle ssp. molle, 8
0 0.5 1 2 3 4
Miles
Allied Propane
1 Mile Radius
5 Mile Radius
N
680