

Appendix B – Biological Resources Assessment
(35 pages)

**BIOLOGICAL AND WETLANDS RESOURCES ASSESSMENT
FOR THE
±5.0-ACRE SILVER EAGLE ROAD STUDY AREA
CITY OF SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA**



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MARCH 2022

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Biological and Wetlands Resources Assessment for the ±5.0-ACRE SILVER EAGLE ROAD STUDY AREA

INTRODUCTION

Project Location

Salix Consulting, Inc. (Salix) has prepared a Biological and Wetlands Resources Assessment for the ±5.0-acre Silver Eagle Road study area located on Silver Eagle Road at the terminus of Mabel Street, in the City of Sacramento, Sacramento County, California. The approximate coordinates for the center of the property are 38°37'51.77" N and 121° 27'47.64" W. It is situated within the Del Paso Land Grant (not part of the Township and Range system, which was a survey of federal lands). The parcel is located on the Rio Linda, California 7.5-minute USGS topographic quadrangle (Figure 1).

Project Setting

The site occurs in the eastern Sacramento Valley at an elevation of approximately 25 feet; it is essentially flat. The study area is primarily ruderal; it has been disked and sprayed with herbicides and has been utilized in some areas as a vehicle pass-through for adjacent parcels. Rural residential parcels are located to the north, east, and west of the study area; Silver Eagle Road and a residential subdivision are located to the south (Figure 2).

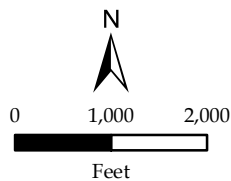
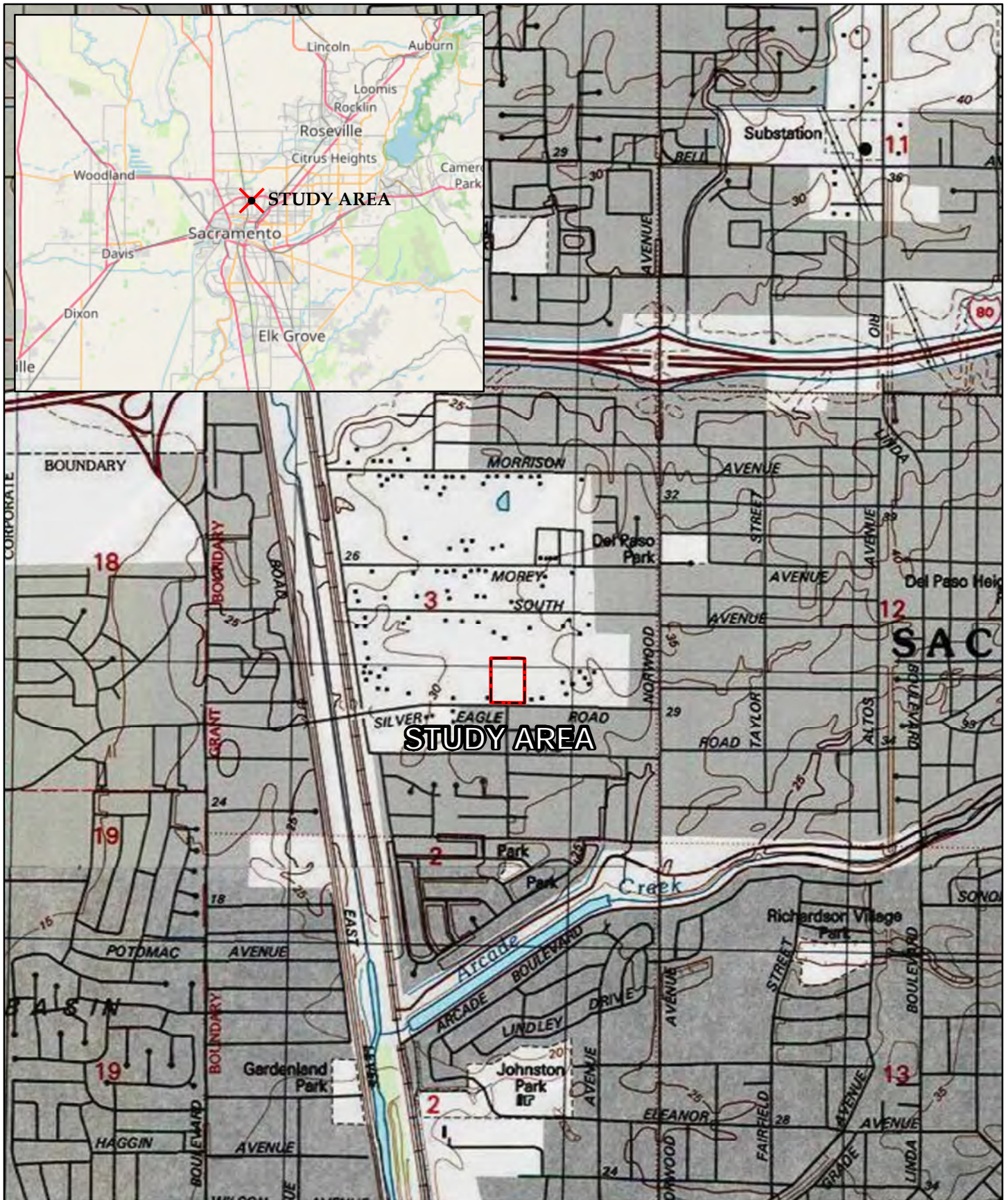
Objectives of Biological Resources Assessment

- Identify and describe the biological communities present in the study area;
- Evaluate and identify if any sensitive habitats or special-status plant and animal species exist or could exist on the site;
- Conduct an analysis to determine if aquatic resources are present, and
- Provide recommendations for further study, if necessary.

METHODS

Literature Review

For this analysis, Salix biologists reviewed aerial photographs, USGS maps, and conceptual drawings of the proposed plot plan. Standard publications were reviewed to provide information on life history, habitat requirements, and distribution of regionally occurring animal species.



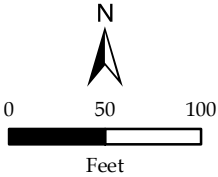
Source Maps: USGS Topographic Map
Rio Linda Quad 1:24,000
S00 (Land Grant) T9N R5E

Figure 1
SITE AND VICINITY MAP
Silver Eagle Road
City of Sacramento, CA



SILVER EAGLE RD

MABEL AVE




 Study Area (±5ac)
Imagery: 3-26-18 Sacramento County

Figure 2
AERIAL MAP
Silver Eagle Road
City of Sacramento, CA

Special-Status Species Reports

To assist with the determination of which special-status species could occur within or near the study area Salix biologists queried the California Natural Diversity Data Base (CDFW 2022) and the California Native Plant Society Inventory (CNPS 2022) and the USFWS Information for Planning and Consultation (USFWS IPaC 2022) database for reported occurrences of special-status fish, wildlife, and plant species in the region surrounding the study area. The six-quadrangle search area included the Rio Linda, Citrus Heights, Taylor Monument, Sacramento West, Sacramento East, and Carmichael USGS quadrangles.

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

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

Field Assessments

A field assessment of the study area was conducted by Salix Principal Biologist Jeff Glazner on February 10, 2022, to characterize existing conditions, to assess the potential for sensitive plant and wildlife resources to occur, and to determine if waters of the U.S. were present onsite. During the field assessments, biological communities were mapped and assessed for the potential to support special status species, plants and animals observed were documented, and ground photos were taken.

Plants observed are listed in Appendix A; animals observed are listed in the *Wildlife Occurrence and Use* section below. Plant names are according to the Jepson Herbarium, Jepson Flora Project (Jepson eFlora) and updated literature that appears in the eFlora. Standard manuals were used as needed to identify wildlife species observed.

SURVEY AND LITERATURE SEARCH RESULTS

Soils

Two soil units have been mapped within the study area as illustrated in Figure 3: San Joaquin fine sandy loam, 0 to 3 percent slopes and San Joaquin Urban land complex, 0 to 3 percent slopes (NRCS 2022). The components of the soil units are illustrated in Figure 3 and described below.

San Joaquin fine sandy loam, 0 to 3 percent slopes

The **San Joaquin component** makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on valleys, low terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer, duripan, is 35 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent.

San Joaquin-Urban land complex, 0 to 3 percent slopes



The **San Joaquin component** makes up 65 percent of this map unit. Slopes are 0 to 3 percent. This component is on valleys, low terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer, duripan, is 35 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria.

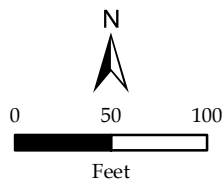
The **Urban land component** makes up 25% of the map unit. Urban land is a miscellaneous area. Soil descriptions do not include miscellaneous areas.


Hydrology

The site occurs in the Lower Steelhead Creek (180201110303) HUC12 watershed which is part of the greater Lower American (18020111) HUC8 watershed. Water on site trends southerly towards urban drainages along Silver Eagle Road and then presumably flows through urban drainage networks and into Steelhead Creek approximately one-half mile west of the site. Steelhead Creek flows south and then west before flowing into the Sacramento River near Discovery Park in the City of Sacramento.

Soil Components

-  211 - San Joaquin fine sandy loam, 0 to 3 percent slopes
-  220 - San Joaquin-Urban land complex, 0 to 3 percent slopes



 Study Area (±5ac)

Imagery: 3-26-18 Sacramento County

Figure 3

SOILS MAP

Silver Eagle Road
City of Sacramento, CA

Biological Communities

One biological community is present – ruderal grassland, as illustrated in Figure 4. Site photos of the study area are presented in Figures 5a through 5c. No aquatic resources are present within the study area.

Ruderal Grassland

The entire study area is highly disturbed (ruderal) annual grassland. It appears to be regularly maintained through disking and an herbicide was applied sometime in late fall or early winter. Weedy vegetation was growing on the site but sparsely and with very low species diversity. The most common plant observed was red stem filaree (*Erodium botrys*). Also abundant was wild radish (*Raphanus sativus*), wild oat (*Avena fatua*), Italian ryegrass (*Festuca perennis*), Bermudagrass (*Cynodon dactylon*), vetch (*Vicia* sp.) and dove's foot geranium (*Geranium mole*).

Valley oak (*Quercus lobata*) and interior live oak (*Q. wislizeni*) grow along the northern, eastern, and western property boundaries. Trees on adjacent properties are also present along the property line. There are no trees or shrubs on the interior of the parcel.

Potential Aquatic Resources

The study area was walked and observed carefully for the presence of aquatic resources. In addition, historic aerial photos were reviewed prior to the site visit to determine if any areas appeared to be wetland. The study area is essentially flat, and no area shows evidence of ponding or prolonged saturation long enough to be a wetland. Upland weedy vegetation is dominant throughout the entire site. No areas of potential aquatic resources are present on the property.

Wildlife Occurrence and Use

Due to the disturbed nature of the site and lack of vegetative diversity, quality wildlife habitat is minimal. However, the site is used by many common species and provides habitat for a number of animals. The ruderal grassland provides foraging habitat for many resident and migratory songbirds, raptors, and small to mid-sized mammals. Trees along the perimeter and on adjacent properties provide suitable nesting habitat for common species. Mid-sized mammals such as coyote, opossum and striped skunk may utilize the site to forage and prey on the small mammals.

Species observed during the site visit include killdeer (*Charadrius vociferous*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), western scrub-jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), yellow-billed magpie (*Pica nuttalli*), European starling (*Sturnus vulgaris*), lesser goldfinch (*Spinus psaltria*), house finch (*Carpodacus mexicanus*), and black-tailed jackrabbit (*Lepus californicus*). Red-tailed hawk (*Buteo jamaicensis*) and turkey vulture (*Cathartes aura*).

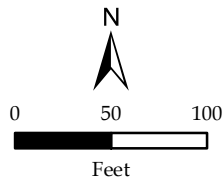
Habitat Components


 Ruderal Grassland (±5 acres)



SILVER EAGLE RD

MABEL AVE



 Study Area (±5ac)

Imagery: 3-26-18 Sacramento County

Figure 4

HABITAT MAP

Silver Eagle Road
City of Sacramento, CA



Looking east along Silver Eagle Road from southwest corner of site.

Photo date 2-10-22



Looking north along western property line from southwest corner of site.

Photo date 2-10-22



Figure 5a

SITE PHOTOS

*Silver Eagle Road
City of Sacramento, CA*



Looking northwest across site.
Photo date 2-10-22



Looking south along western boundary toward Silver Eagle Road.
Photo date 2-10-22



Figure 5b

SITE PHOTOS

Silver Eagle Road
City of Sacramento, CA



Looking east along northern property line.
Photo date 2-10-22



Two large Valley oaks at northwest corner of site.
Photo date 2-10-22

Special-Status Species

To determine potentially-occurring special-status species, the standard databases from CDFW (CNDDDB), CNPS, and USFWS (IPaC) were queried and reviewed as described above. These searches provided a list of regionally-occurring special-status species and were used to determine which species have some potential to occur within or near the study area. Appendix B lists potentially-occurring special-status plants, and Appendix C lists potentially-occurring special-status animals compiled from these queries. The field survey and the best professional judgment of Salix biologists were used to further refine the tables in Appendices B and C. Additionally, CNPS Rank 4 plant species are not considered further in the document. Figure 6a shows the approximate locations of reported occurrences of CNDDDB special-status plants, and Figure 6B shows the approximate locations of reported occurrences of CNDDDB special-status animals within a five-mile radius of the study area.

Plants

Of the nine (9) potentially-occurring plant species identified in the CNDDDB query (Appendix B), four (4) were identified as occurring within or near a five-mile radius of the study area (Figure 6a), but none of these were determined to have any potential for occurring onsite due to the absence of suitable wet habitats. These include:

- Sanford's arrowhead (*Sagittaria sanfordii*) and
- Dwarf downingia (*Downingia pusilla*)
- Legenere (*Legenere limosa*) and
- Woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*).

Five (5) other species identified in the CNDDDB query (but not reported to occur within a 5-mile radius) were also determined to have no potential for occurring onsite due to the absence of suitable wet habitats. These include:

- Suisun Marsh aster (*Symphotrichum lentum*)
- Ferris' milkvetch (*Astragalus tener ferrisiae*)
- Ahart's dwarf rush (*Juncus leiospermus ahartii*)
- Bogg's Lake hedge-hyssop (*Gratiola heterosepala*) and
- Sacramento Valley Orcutt grass (*Orcuttia viscida*)

In summary, nine (9) special-status plants are known from the region surrounding the study area (Appendix B), and four (4) of these plants are known from within a five-mile radius and are shown in Figure 6a. All of the plant species identified in Appendix B require wet habitats that do not occur within the study area. Therefore, all nine were determined to have no potential for occurring onsite and were eliminated from further consideration

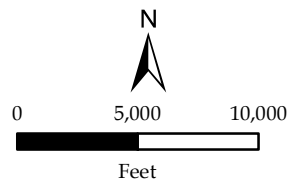
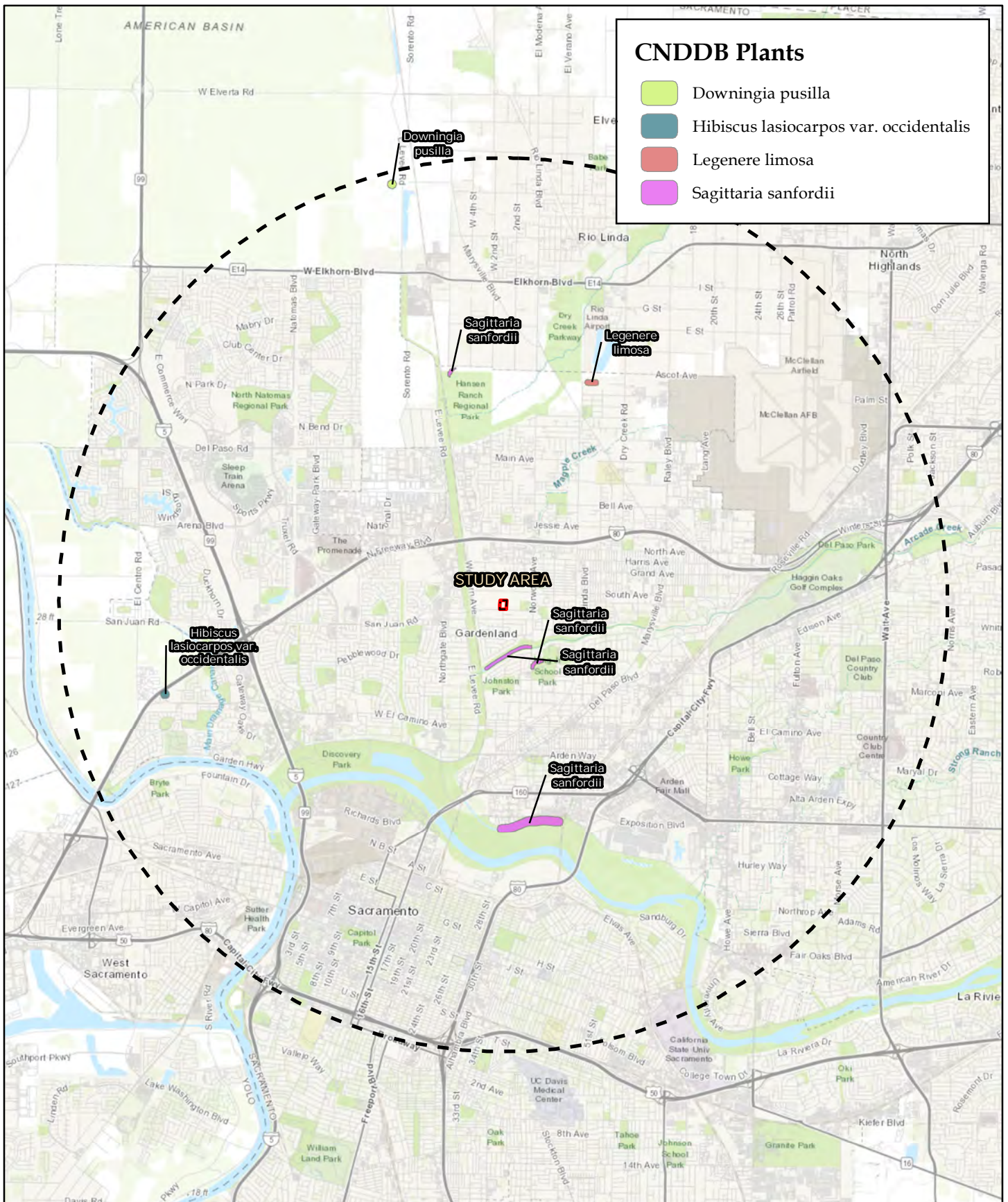

















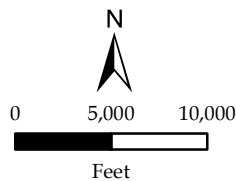
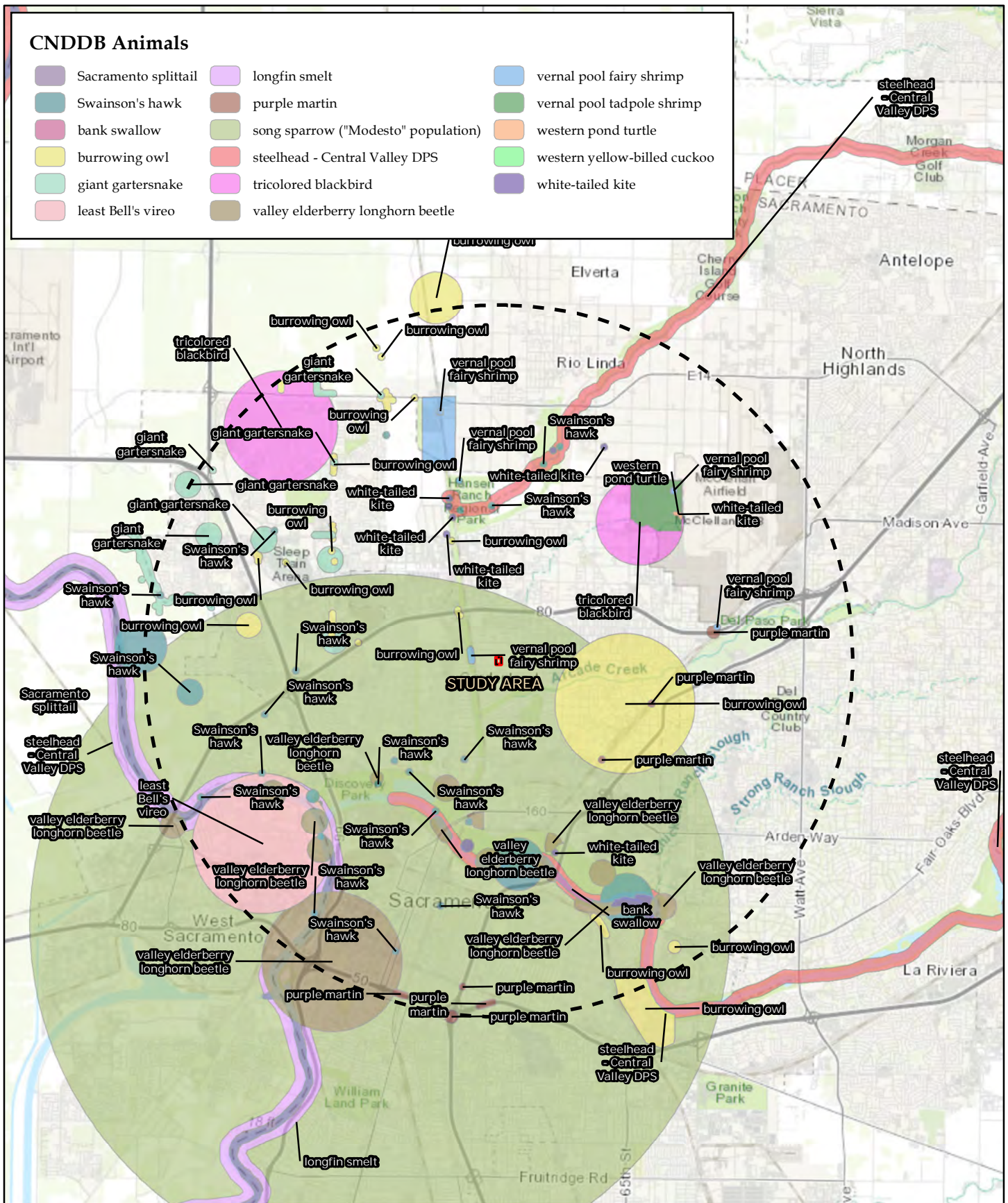


Figure 6a
CNDDB PLANTS
Silver Eagle Road
City of Sacramento, CA

CNDDDB Animals

- | | | |
|--|---|--|
|  Sacramento splittail |  longfin smelt |  vernal pool fairy shrimp |
|  Swainson's hawk |  purple martin |  vernal pool tadpole shrimp |
|  bank swallow |  song sparrow ("Modesto" population) |  western pond turtle |
|  burrowing owl |  steelhead - Central Valley DPS |  western yellow-billed cuckoo |
|  giant gartersnake |  tricolored blackbird |  white-tailed kite |
|  least Bell's vireo |  valley elderberry longhorn beetle | |



 5-Mile Radius

Figure 6b
CNDDDB ANIMALS

Silver Eagle Road
City of Sacramento, CA

Animals

Of the 28 animal species identified in the CNDDDB and USFWS queries (Appendix C), 17 were identified as occurring within or near the five-mile radius of the study area (Figure 6b). Fourteen (14) of the species occurring within a 5-mile radius were determined to have no potential for occurring onsite due to the absence of suitable aquatic habitat and/or suitable nesting habitat. These include:

- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Vernal pool tadpole shrimp (*Lepidurus packardi*)
- Steelhead, Central Valley ESU (*Oncorhynchus mykiss irideus*)
- Giant garter snake (*Thamnophis gigas*)
- Sacramento splittail *Pogonichthys macrolepidotus*)
- Longfin smelt (*Spirinichus thaleichthys*)
- Western pond turtle (*Actinemys marmorata*)
- Swainson's hawk (*Buteo swainsoni*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Purple martin (*Progne subis*)
- Bank swallow (*Riparia riparia*)
- Song Sparrow - Modesto population (*Melospiza melodia*)
- Tricolored blackbird (*Agelaius tricolor*)

One species occurred within a 5-mile radius but was determined to have no potential for occurring onsite due to the absence of suitable host plants.

- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Eleven (11) other species identified in the CNDDDB query but not reported to occur within a 5-mile radius were also determined to have no potential for occurring onsite due to the absence of suitable habitat (or nesting habitat) or due to the site being located outside of the species' known range. These include:

- Monarch butterfly (*Danaus plexippus*)
- Chinook salmon - Central Valley spring-run ESU (*Oncorhynchus tshawytscha*)
- Chinook salmon - Sacramento winter run ESU (*Oncorhynchus tshawytscha*)
- Delta smelt (*Hypomesus transpacificus*)
- Sacramento perch (*Archoplites interruptus*)
- California tiger salamander (*Ambystoma californiense*)
- Western spadefoot (*Spea hammondi*)
- California red-legged frog (*Rana draytonii*)

- Golden eagle (*Aquila chrysaetos*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- American badger (*Taxidea taxus*)

In summary, of the 28 special-status animals identified through the CNDDDB query and other literature as occurring within the broader region surrounding the study area, 17 were identified as occurring within a five-mile radius of the study area, and 15 of these (listed above) were determined to have no potential for occurring on site. In addition, 11 other species (also listed above) were determined to have no potential for occurring onsite due to the absence of suitable habitat such as vernal pool or other wet/aquatic habitats, absence of a host plant or suitable nesting habitat. The study area is located outside several fish species' known range (see Appendix 6b).

In particular, the study area lacks aquatic habitats such as streams and ponds that would support California tiger salamander, western spadefoot, California red-legged frog, western pond turtle, or giant garter snake. There are no streams within the study area to support Central Valley steelhead, or any of the other listed fish species.

The study area does not contain any areas that would qualify as suitable habitat for vernal pool crustaceans (vernal pools or seasonal wetlands). No critical habitat for vernal pool crustaceans is mapped within or near the study area.

As noted in Appendix C, no suitable nesting habitat occurs within the study area to support Swainson's hawk, golden eagle, western yellow-billed cuckoo, least Bell's vireo, bank swallow, song sparrow, purple martin or tricolored blackbird.

Valley elderberry longhorn beetle is a federal-threatened species that occurs in association with live elderberry shrubs. Valley elderberry longhorn beetle has no potential for occurring within the study area due to the absence of suitable habitat (elderberry shrubs).

Two (2) animal species were determined to be unlikely to occur within the study area. They are listed in Table 1 below and discussed further following the table. No other special-status species were determined to have any potential to occur within the study area.

**Table 1.
Special-Status Species Determined to Have ANY POTENTIAL to Occur Within
the Silver Eagle Study Area**

Species	Status*		Habitat	Potential for Occurrence Within Study Area**
	Federal	State		
Birds				
Burrowing owl <i>Athene cunicularia</i>	-	SSC -	Dry grasslands, deserts, and scrublands.	Unlikely. Site provides suitable habitat, but burrows not likely due to high adjacent human activity and presence of domestic animals.
White-tailed kite <i>Elanus leucurus</i>	-	CFP	Found in lower foothills and valley margins with scattered oaks and along river bottomlands or marshes adjacent to oak woodlands. Nests in trees with dense tops.	Unlikely. Taller trees, particularly along northern boundary, provide marginal nesting habitat.

*Status Codes:

State

CFP California Fully Protected
SSC California Species of Concern

**Definitions for the Potential to Occur:

Unlikely: Minimal or marginal quality habitat in the study area.

White-tailed kite (*Elanus leucurus*) occurs primarily at lower elevations near agricultural areas but may occasionally nest in foothill locations. It preys mostly on voles and other small, diurnal mammals, occasionally on birds, insects, reptiles, and amphibians and forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. White-tailed kite uses trees with dense canopies for cover, making a nest of loosely piled sticks and twigs and lined with grass, straw, or rootlets. Nest placed near top of dense oak, willow, or other tree stand; usually 20-100 feet above ground, near a foraging area.

The nearest reported occurrence of the species is 2 miles north of the study area, northeast of the intersection of Sotnup and Tunis, north of Del Paso Road, in 2002 (CNDDDB 2022). White-tailed kite was not observed during spring surveys of this site. While the taller trees along the northern boundary provide marginal nesting habitat, it is unlikely that white-tailed kite would occur on the site.

Burrowing owl (*Athene cunicularia*), an SSC species, occurs in association with open, dry grasslands, deserts, agricultural areas, and rangeland throughout the Central Valley. They often occur where numerous burrowing mammals are present and frequently occupy California ground squirrel burrows (Shuford and Gardali 2008). Burrowing owls may also use man-made structures such as debris piles, culverts, and cement piles

for cover. Distinctive burrow characteristics for burrowing owl are not known. However, given the size of this owl, burrow entrances are expected to be at least seven centimeters in diameter. Circumstantial evidence of burrowing owl occurrence typically consists of the presence of molted feathers, cast pellets, prey remains, or excrement near a burrow entrance. Breeding of burrowing owl occurs from March to late August and incubation lasts between 28 to 30 days. Young are fledged at about 44 days but remain near the burrow and join the adults to forage at dusk.

The CNDDDB documents the nearest burrowing owl occurrence less than one mile northwest of the study area, in the Natomas area, west of East Levee Road in a flood control levee in 2006 and 2007 (CNDDDB 2022). While no evidence of occurrence of this species was observed during the field assessment of the study area, the site provides suitable habitat. However, it is unlikely that burrowing owl occupies the site due to a high level of human activity and the presence of domestic animals and pets adjacent to the site.

RECOMMENDATIONS

Aquatic Resources

As noted above, the study area is essentially flat, and no area shows signs of ponding or prolonged saturation. No aquatic land cover types (such as vernal pools, swales, seasonal wetlands, marsh, streams/creeks, open water, or riparian habitats) are present in the study area. Because no areas of potential aquatic resources are present on the property, no Clean Water Act permits (Section 404 or Section 401) will be required.

Streams, Pond, and Riparian Habitat

No streams, ponds or riparian habitat are present on the site. Thus, no Lake & Streambed Alteration Agreement (LSAA) will be required from the California Department of Fish and Wildlife (CDFW).

Tree Conservation

In the City of Sacramento, “a permit is required to perform regulated work” on “Private Protected Trees” (which includes trees formerly referred to as “Heritage Trees”). Private protected trees are defined as trees designated to have special historical value, special environmental value, or significant community benefit, and are located on private property. According to the City web site, private protected trees include:

- All native trees at 12 inch DBH, including Coast, Interior, Valley and Blue Oaks, CA Sycamore and Buckeye.
- All trees at 32 inch DSH with an existing single family or duplex dwelling.
- All trees at 24 inch DSH on undeveloped land or any other type of property such as commercial, industrial, and apartments.

It is recommended that a certified arborist be consulted regarding compliance with the City Tree Ordinance, and/or that consultation with the City Planning Department take place.

Special-Status Plants

The study area contains no suitable habitats for special-status plant species that may occur in the region, and none were detected during the spring survey. No further studies are recommended.

Special-Status Wildlife

Burrowing Owl

Very marginal habitat for burrowing owl occurs throughout the study area in association with the open ruderal grassland. Prior to any future work activities or ground disturbance on site, a pre-construction burrowing-owl survey should be conducted to determine presence/absence of the species within and directly adjacent to proposed work areas. Pre-construction surveys should be conducted according to the California Burrowing Owl Consortium's 1993 *Burrowing Owl Survey Protocol and Mitigation Guidelines*. In the event that active burrows are found during the pre-construction surveys, CDFW should be contacted to determine avoidance measures and mitigation responsibilities.

Nesting Raptors and Migratory Birds, including white-tailed kite

The site may provide suitable nesting habitat for white-tailed kite (state fully-protected) or other common raptors, and for other birds protected by the Migratory Bird Treaty Act. Take of any active raptor nest is prohibited under California Fish and Game Code sections 3503, 3503.5, and 3513. If tree removal or other ground disturbance takes place during the breeding/nesting season (February 1 through August 31), disturbance of nesting activities could occur. To avoid impacts to nesting birds, disturbance should occur outside of the typical nesting season, or begin outside of the nesting season and carry on into the nesting season. If disturbance occurs at any time during the nesting season, a pre-construction survey should be conducted by a qualified biologist within two weeks prior to initiation of proposed development activities. If active nests are found during the pre-construction survey, buffer zones will be established around any identified nests, and the nests will be monitored by a qualified biologist until the offspring have fledged. Consultation with the City and the California Department of Fish and Wildlife (CDFW) may be warranted.

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Appendix A.
Plant Species Observed Within the Silver Eagle Road Study Area

Appendix A

Silver Eagle Road - Plants Observed - February 2022

Angiosperms - Dicots

Asteraceae (Compositae) - Sunflower Family

* <i>Carduus pycnocephalus</i>	Italian thistle
* <i>Centaurea solstitialis</i>	Yellow starthistle
<i>Centromadia fitchii</i>	Fitch's spikeweed
* <i>Cichorium intybus</i>	Chicory
* <i>Dittrichia graveolens</i>	Stinkwort
<i>Erigeron canadensis</i>	Canadian horseweed
* <i>Helminthotheca echioides</i>	Bristly ox-tongue
<i>Holocarpha virgata subsp. virgata</i>	Virgate tarweed
* <i>Hypochaeris glabra</i>	Smooth cat's-ear
* <i>Lactuca serriola</i>	Prickly lettuce
* <i>Leontodon saxatilis</i>	Long-beaked hawkbit
* <i>Matricaria discoidea</i>	Pineapple-weed
<i>Pseudognaphalium canescens</i>	Wright's rabbit-tobacco
* <i>Senecio vulgaris</i>	Common groundsel
* <i>Sonchus asper subsp. asper</i>	Prickly sow-thistle

Boraginaceae - Borage Family

<i>Amsinckia menziesii</i>	Rancher's fireweed
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Brassicaceae (Cruciferae) - Mustard Family

* <i>Brassica nigra</i>	Black mustard
* <i>Hirschfeldia incana</i>	Short-podded mustard
* <i>Raphanus sativus</i>	Wild radish

Caryophyllaceae - Pink Family

* <i>Spergularia rubra</i>	Ruby sand-spurrey
* <i>Stellaria media</i>	Common chickweed

Convolvulaceae - Morning-Glory Family

* <i>Convolvulus arvensis</i>	Bindweed
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Euphorbiaceae - Spurge Family

<i>Croton setiger</i>	Turkey mullein
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Fabaceae (Leguminosae) - Legume Family

<i>Acmispon americanus</i>	Spanish lotus
* <i>Medicago polymorpha</i>	California burclover
* <i>Trifolium dubium</i>	Little hop clover
* <i>Vicia villosa</i>	Winter vetch

Fagaceae - Oak Family

<i>Quercus lobata</i>	Valley oak
<i>Quercus wislizeni</i>	Interior live oak

Geraniaceae - Geranium Family

* <i>Erodium botrys</i>	Broad-leaf filaree
* <i>Erodium cicutarium</i>	Red-stem filaree

* Indicates a non-native species

<i>*Erodium moschatum</i>	White-stem filaree
<i>*Geranium dissectum</i>	Cut-leaf geranium
<i>*Geranium molle</i>	Dove's-foot geranium
Lamiaceae (Labiatae) - Mint Family	
<i>*Lamium amplexicaule</i>	Deadnettle
Lythraceae - Loosestrife Family	
<i>*Lythrum hyssopifolia</i>	Hyssop loosestrife
Malvaceae - Mallow Family	
<i>*Malva neglecta</i>	Common mallow
Onagraceae - Evening Primrose Family	
<i>Epilobium brachycarpum</i>	Summer cottonweed
Plantaginaceae - Plantain Family	
<i>*Plantago lanceolata</i>	English plantain
Polygonaceae - Buckwheat Family	
<i>*Polygonum aviculare</i>	Common knotweed
<i>*Rumex crispus</i>	Curly dock
Zygophyllaceae - Caltrop Family	
<i>*Tribulus terrestris</i>	Puncture vine

Angiosperms -Monocots

Agavaceae - Agave Family

**Agave americana* American century-plant

Poaceae (Gramineae) - Grass Family

**Avena fatua* Wild oat
**Bromus diandrus* Ripgut grass
**Bromus hordeaceus* Soft chess
**Cynodon dactylon* Bermudagrass
**Festuca perennis* Italian ryegrass
**Hordeum marinum subsp. gussoneanum* Mediterranean barley
**Hordeum murinum* Wall barley
**Poa annua* Annual bluegrass
**Sorghum halepense* Johnsongrass

Appendix B.
**Potentially-Occurring Special-Status Plants in the Region of the Silver Eagle Road
Study Area**

Appendix B
Silver Eagle Road - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Alismataceae				
<i>Sagittaria sanfordii</i> Sanford's arrowhead	Fed: - State: - CNPS: Rank 1B.2	May-October	Marshes, shallow freshwater.	None. No suitable habitat present. No marsh or wet habitat.
Asteraceae (Compositae)				
<i>Symphotrichum lentum</i> Suisun Marsh aster	Fed: - State: - CNPS: Rank 1B.2	August-November	Marshes and swamps (brackish and fresh water)	None. No suitable habitat present. No marsh or swamp.
Campanulaceae				
<i>Downingia pusilla</i> Dwarf downingia	Fed: - State: - CNPS: Rank 2B.2	March-May	Vernal pools and seasonal wetlands.	None. No suitable habitat present. No vernal pools or wetlands.
<i>Legenere limosa</i> Legenere	Fed: - State: - CNPS: Rank 1B.1	April-June	Vernal pools and seasonal wetlands.	None. No suitable habitat present. No vernal pools or wetlands.
Fabaceae (Leguminosae)				
<i>Astragalus tener ferrisiae</i> Ferris' milkvetch	Fed: - State: - CNPS: Rank 1B.1	April-May	Meadows (vernally mesic); valley and foothill grassland (subalkaline flats).	None. No suitable habitat present. None. site lacks moist alkaline areas.
Juncaceae				
<i>Juncus leiospermus ahartii</i> Ahart's dwarf rush	Fed: - State: - CNPS: Rank 1B.2	March-May	Vernal pools.	None. No suitable habitat present. No vernal pools.

Appendix B

Silver Eagle Road - Potentially-occurring Special-status Plants

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Malvaceae				
<i>Hibiscus lasiocarpus occidentalis</i> Woolly rose-mallow	Fed: - State: - CNPS: Rank 1B.2	June-September	Marshes and swamps (freshwater).	None. No suitable habitat present. No marsh or swamp.
Plantaginaceae				
<i>Gratiola heterosepala</i> Bogg's Lake hedge-hyssop	Fed: - State: CE CNPS: Rank 1B.2	April-August	Vernal pools.	None. No suitable habitat present. No vernal pools.
Poaceae (Gramineae)				
<i>Orcuttia viscida</i> Sacramento Valley Orcutt grass	Fed: FE State: CE CNPS: Rank 1B.1	May-June	Vernal pools.	None. No suitable habitat present. No vernal pools.

*Status

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

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

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

Appendix C.
Potentially-Occurring Special-Status Animals in the Region of the Silver Eagle Road
Study Area

Appendix C
Silver Eagle Road - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Invertebrates			
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Fed: FT State: - Other: -	Vernal pools and other temporary bodies of water in southern and Central Valley of California. Most common in smaller grass or mud bottomed swales or basalt flow depression pools in unplowed grasslands.	None. No suitable habitat present. No vernal pools.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	Fed: FE State: - Other: -	Found in vernal pools in the Central Valley of California and in the San Francisco Bay area. Inhabits vernal pools with clear to highly turbid water.	None. No suitable habitat present. No vernal pools.
Insects			
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	Fed: FT State: - Other: *	Requires host plant, elderberry (<i>Sambucus nigra</i>) for its life cycle. Shrubs must have live stem diameters at ground level of 1.0 inch or greater. Occurs in Great Valley and lower foothills.	None. No suitable habitat present. No host plant present.
Monarch butterfly <i>Danaus plexippus</i>	Fed: FC State: - Other: *	Monarchs west of Rockies generally migrate to and overwinter along California coast, including those tagged in Oregon, Washington, Idaho, Arizona, and Nevada. Breeding areas must have milkweed for egg laying.	None. No suitable habitat present. No host plant present.
Fish			
Steelhead, Central Valley ESU <i>Oncorhynchus mykiss irideus</i>	Fed: FT State: - Other: -	Occurs below man-made impassable barriers in the Sacramento and San Joaquin rivers and tributaries. Adults migrate from ocean to natal freshwater streams to spawn. Yuba River has essentially the only remaining wild steelhead fishery in Central Valley.	None. No suitable habitat present. No streams.
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	Fed: FT State: CT Other: *	Occurs in water bodies with cool, fast-flowing water and gravel suitable for spawning. Found primarily in 4 tributaries of the Sacramento River: Butte Creek, Big Chico Creek, Deer Creek, and Mill Creek.	None. No suitable habitat present. No streams.
Chinook salmon - Sacramento winter run ESU <i>Oncorhynchus tshawytscha</i>	Fed: FE State: CE Other: -	One of 4 runs that spawns in upper Sacramento River and Battle Creek. They return to the upper Sacramento River in the winter but delay spawning until the spring and summer.	None. No suitable habitat present. No streams.

Appendix C
Silver Eagle Road - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Delta smelt <i>Hypomesus transpacificus</i>	Fed: FT State: CT Other: -	Endemic to the Sacramento-San Joaquin Delta in coastal and brackish waters. Occurs seasonally in Suisun and San Pablo bays. Spawning usually occurs in dead-end sloughs and shallow channels.	None. No suitable habitat present. No streams. Study area outside the range of the species.
Longfin smelt <i>Spirinichus thaleichthys</i>	Fed: FC State: CT Other:	Endemic to the lower reaches of the Sacramento-San Joaquin River system. Inhabits open waters in the Delta and Suisun Bay. After spawning, larvae are carried downstream to brackish nursery areas.	None. No suitable habitat present. No streams. Study area outside the range of the species.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	Fed: - State: CSC Other:	Found in: (1) the Delta, (2) Suisun Bay, (3) Suisun Marsh, (4) Napa River, (5) Petaluma River, and (6) other parts of the Sacramento-San Joaquin Estuary. Requires flooded vegetation for spawning and rearing.	None. No suitable habitat present. No streams. Study area outside the range of the species.
Sacramento perch <i>Archoplites interruptus</i>	Fed: - State: CSC Other:	Historically found in slow-moving rivers, sloughs, and ponds in the Central Valley.	None. No suitable habitat present. Site lacks any aquatic features.

Amphibians

California tiger salamander <i>Ambystoma californiense</i>	Fed: FE State: CT Other: -	Occurs in annual grassland habitat (<1500 feet) and occasionally in grassy understory of valley-foothill hardwood habitats where lowland aquatic sites are available for breeding. Breeds primarily in vernal pools.	None. No suitable habitat present. No aquatic habitat.
Western spadefoot <i>Spea hammondi</i>	Fed: - State: CSC Other: -	Found primarily in grassland habitats, but may occur in valley and foothill woodlands. Requires vernal pools, seasonal wetlands, or stock ponds for breeding and egg laying. Prefers more turbid pools for predator avoidance.	None. No suitable habitat present. No aquatic habitat.
California red-legged frog <i>Rana draytonii</i>	Fed: FT State: - Other: SSC	Occurs in lowlands and foothills in deeper pools and slow-moving streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	None. No suitable habitat present. No aquatic habitat.

Appendix C
Silver Eagle Road - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Reptiles			
Western pond turtle <i>Actinemys marmorata</i>	Fed: - State: - Other: SSC	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	None. No suitable habitat present. No aquatic habitat.
Giant garter snake <i>Thamnophis gigas</i>	Fed: FT State: CT Other: -	Primarily associated with marshes and sloughs, less with slow-moving creeks, and absent from larger rivers. Nocturnal retreats include mammal burrows and crevices. During the day, basks on emergent vegetation such as cattails and tules.	None. No suitable habitat present. No aquatic habitat.
Birds			
White-tailed kite <i>Elanus leucurus</i>	Fed: - State: - Other: CFP	Found in lower foothills and valley margins with scattered oaks and along river bottomlands or marshes adjacent to oak woodlands. Nests in trees with dense tops.	Unlikely. Taller trees, particularly along northern boundary, provide marginal nesting habitat.
Swainson's hawk <i>Buteo swainsoni</i>	Fed: - State: CT Other: *	Breeds in open areas with scattered trees; prefers riparian and sparse oak woodland habitats. Requires nearby grasslands, grain fields, or alfalfa for foraging. Rare breeding species in Central Valley.	None. No suitable nesting habitat present in study area.
Golden eagle <i>Aquila chrysaetos</i>	Fed: - State: CFP Other: -	Found in rolling foothill grassland with scattered trees. Nests on cliffs and in large trees in open areas.	None. No suitable nesting habitat present in study area.
California black rail <i>Laterallus jamaicensis coturniculus</i>	Fed: - State: CT Other: CFP	Inhabits salt, fresh, and brackish water marshes with little daily and/or annual water fluctuations. In freshwater habitats, preference is for dense bulrush and cattails. Several scattered populations documented from Butte Co. to southern Nevada Co.	None. No suitable habitat present. No aquatic habitat.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	Fed: FT State: CE Other: -	Inhabits riparian forests along the broad, lower floodplains of larger rivers. Nests in thickets of willows and cottonwoods with an understory of blackberry, nettle, or wild grape.	None. No suitable nesting habitat present in study area. No riparian habitat.

Appendix C
Silver Eagle Road - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Burrowing owl <i>Athene cucularia</i>	Fed: - State: - Other: SSC	Found in annual grasslands. Nests in burrows dug by small mammals, primarily ground squirrels.	Unlikely. Site provides suitable habitat, but burrows not likely due to high adjacent human activity and presence of domestic animals.
Least Bell's vireo <i>Vireo bellii pusillus</i>	Fed: FE State: CE Other:	Rare, local summer resident below 2000 ft in low, dense foothill riparian habitat. Inhabits low, dense growth along water. Typically associated with willows, cottonwoods, and blackberry thickets.	None. No suitable nesting habitat present in study area. No riparian habitat.
Purple martin <i>Progne subis</i>	Fed: - State: CSC Other: *	Breeds in riparian woodland, oak woodland, open coniferous forests. Secondary cavity nester. Requires nest sites close to open foraging areas of water or land.	None. No suitable nesting habitat present in study area.
Bank swallow <i>Riparia riparia</i>	Fed: - State: CT Other: *	Colonial nester near riparian and other lowland habitats. Requires vertical banks or cliffs with fine-textured, sandy soils near streams, rivers, and lakes.	None. No suitable habitat present. No suitable nesting habitat or aquatic habitat.
Song Sparrow - Modesto population <i>Melospiza melodia</i>	Fed: State: CSC Other: -	Occurs in expansive freshwater wetlands and early stage riparian thickets of Sacramento Valley. Prefers emergent freshwater marshes dominated by tules, cattails, and willow thickets.	None. No suitable nesting habitat present in study area. No aquatic habitat present.
Tricolored blackbird <i>Agelaius tricolor</i>	Fed: - State: CT Other: SSC	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	None. No suitable nesting habitat present in study area.

Mammals

American badger <i>Taxidea taxus</i>	Fed: - State: - Other: SSC	Occurs in dry, open soils in herbaceous, shrub, and forest habitats. Needs friable, uncultivated soil. Preys on rodents.	None. No suitable habitat present. No friable, undisturbed soil.
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Appendix C

Silver Eagle Road - Potentially-occurring Special-status Animals

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

Appendix C – Cultural Resources Inventory
(31 pages)