# Biological Resources Assessment

±124-Acre SPTC-JPA Nature Trail Project
City of Folsom, Sacramento County and El Dorado County, California

---

**Prepared for**: Sacramento-Placerville Transportation Corridor Joint Power Authority

**Date**: March 6, 2015

Submitted by:

FOOTHILL ASSOCIATES

# Table of Contents


**1.0 Executive Summary ..... 1**

**2.0 Introduction ..... 2**

**3.0 Regulatory Framework ..... 3**

3.1 Federal Jurisdiction ..... 3

*3.1.1 Federal Endangered Species Act ..... 3*

*3.1.2 Migratory Bird Treaty Act ..... 3*

*3.1.3 The Bald and Golden Eagle Protection Act ..... 4*

3.2 State Jurisdiction ..... 4

*3.2.1 California Endangered Species Act ..... 4*

*3.2.2 California Department of Fish and Game Codes ..... 4*

*3.2.3 California Department of Fish and Wildlife Species of Concern ..... 5*

3.3 Jurisdictional Waters ..... 5

*3.3.1 Federal Jurisdiction ..... 5*

*3.3.2 State Jurisdiction ..... 6*

3.4 CEQA Significance Criteria ..... 6

*3.4.1 California Native Plant Society ..... 7*

3.5 El Dorado County General Plan ..... 8

*3.5.1 El Dorado County General Plan Section 7.4.4.4 ..... 19*

3.6 City of Folsom Tree Ordinance ..... 20

**4.0 Methods ..... 21**

**5.0 Results ..... 22**

5.1 Site Location and Description ..... 22

5.2 Physical Features ..... 22

*5.2.1 Topography and Drainage ..... 22*

*5.2.2 Soils ..... 22*

5.3 Wildlife Corridors ..... 24

5.4 Biological Communities ..... 25

*5.4.1 Disturbed/Developed ..... 25*

*5.4.2 Non-Native Annual Grassland ..... 25*

*5.4.3 Oak Woodland ..... 26*

*5.4.4 Riparian ..... 26*

*5.4.5 Seasonal Wetland ..... 26*

*5.4.6 Perennial Drainage ..... 26*

*5.4.7 Intermittent Drainage ..... 26*

*5.4.8 Ephemeral Drainage ..... 26*

5.5 Special-Status Species ..... 26

*5.5.1 Listed and Special-Status Plants ..... 27*

*5.5.2 Listed and Special-Status Wildlife ..... 29*

5.6 Sensitive Habitats ..... 34

*5.6.1 Potential Jurisdictional Waters of the U.S. ..... 34*

*5.6.2 Riparian ..... 34*

*5.6.3 Oak Woodland ..... 34*

**6.0 Discussion and Recommendations ..... 36**

6.1 Special-Status Plants ..... 36

6.2 Valley Elderberry Longhorn Beetle ..... 37

6.3 California Red-Legged Frog....37
6.4 Western Pond Turtle....37
6.5 Western Spadefoot Toad....38
6.6 Burrowing Owl....38
6.7 Swainson's Hawk Nesting....38
6.8 Swainson's Hawk Foraging....39
6.9 Migratory Birds and Other Birds of Prey....39
6.10 American Badger....40
6.11 Special-Status Bat Species....41
6.12 Sensitive Habitats....41
6.13 Summary of Avoidance and Minimization Measures....41
**7.0 References....43**

## List of Tables

Table 1 — Biological Communities by Acreages....25

## List of Figures

Figure 1 — SPTC-JPA Nature Trail Site and Vicinity....46
Figure 2 — SPTC-JPA Nature Tail Soils....47
Figure 3 — SPTC-JPA Nature Trail CNDDB....48
Figure 4 — SPTC-JPA Biological Communities (Sheet 1 of 11)....49
Figure 4 — SPTC-JPA Biological Communities (Sheet 2 of 11)....50
Figure 4 — SPTC-JPA Biological Communities (Sheet 3 of 11)....51
Figure 4 — SPTC-JPA Biological Communities (Sheet 4 of 11)....52
Figure 4 — SPTC-JPA Biological Communities (Sheet 5 of 11)....53
Figure 4 — SPTC-JPA Biological Communities (Sheet 6 of 11)....54
Figure 4 — SPTC-JPA Biological Communities (Sheet 7 of 11)....55
Figure 4 — SPTC-JPA Biological Communities (Sheet 8 of 11)....56
Figure 4 — SPTC-JPA Biological Communities (Sheet 9 of 11)....57
Figure 4 — SPTC-JPA Biological Communities (Sheet 10 of 11)....58
Figure 4 — SPTC-JPA Biological Communities (Sheet 11 of 11)....59

## List of Appendices

Appendix A — CDFW, CNPS, and USFWS Queries
Appendix B — Plants and Wildlife Observed within the Study Area
Appendix C — Regionally Occurring Listed and Special-Status Species

## 1.0 EXECUTIVE SUMMARY

Foothill Associates' biologists prepared this Biological Resources Assessment (BRA) for the ± 124-acre Sacramento-Placerville Transportation Corridor (SPTC)-Joint Power Authority (JPA) Nature Trail (Study Area), located in the City of Folsom, Sacramento County and in El Dorado County, California. The purpose of this BRA is to summarize the general biological resources within the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to provide recommendations for regulatory permitting or further analysis that may be required, and to recommend mitigation measures to avoid or minimize potential impacts to special-status species and sensitive habitat types.

Biological constraints within the Study Area include known or potential habitat for:

- Special-status plants including Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Brandegee's clarkia (*Clarkia biloba* ssp. *biloba*), dwarf downingia (*Downingia pusilla*), Jepson's woolly sunflower (*Eriophyllum jepsonii*), and Tuolumne button-celery (*Eryngium pinnatisectum*);
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*);
- California red-legged frog (*Rana draytonii*);
- Western pond turtle (*Emys marmorata*);
- Western spadefoot toad (*Spea hammondii*);
- Burrowing owl (*Athene cunicularia*);
- Swainson's hawk (*Buteo swainsoni*);
- Migratory birds and raptors including golden eagle (*Aquila chrysaetos*); white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelaius tricolor*), and grasshopper sparrow (*Ammodramus savannarum*);
- American badger (*Taxidea taxus*);
- Special-status bat species; and
- Sensitive habitats (potentially jurisdictional waters of the U.S., oak woodland, and native oak trees.

## 2.0 INTRODUCTION

This BRA summarizes the general biological resources within the Study Area, assesses the suitability of the Study Area to support special-status species and sensitive habitat types, provides recommendations for regulatory permitting or further analysis that may be required, and recommends mitigation measures to avoid or minimize potential impacts to special-status species and sensitive habitat types.

## 3.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The CEQA significance criteria are also included in this section.

### 3.1 Federal Jurisdiction

#### *3.1.1 Federal Endangered Species Act*

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, FESA would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

#### *3.1.2 Migratory Bird Treaty Act*

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

### *3.1.3 The Bald and Golden Eagle Protection Act*

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

## 3.2 State Jurisdiction

### *3.2.1 California Endangered Species Act*

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), formally California Department of Fish and Game, when preparing California Environmental Quality Act (CEQA) documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

### *3.2.2 California Department of Fish and Game Codes*

Fully protected fish species are protected under Section 5515; fully protected amphibian and reptile species are protected under Section 5050; fully protected bird species are protected under Section 3511; and fully protected mammal species are protected under Section 4700. The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited.

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the

destruction of raptor nests. Sections 2062 and 2067 define endangered and threatened species.

### *3.2.3 California Department of Fish and Wildlife Species of Concern*

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

## 3.3 Jurisdictional Waters

### *3.3.1 Federal Jurisdiction*

The Corps regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

### *3.3.2 State Jurisdiction*

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq*. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601." Additionally, CDFW may assert jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4 inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State. All of the wetlands and waterways in the Study Area are waters of the State, which are protected under this act.

Historically, California relied on its authority under Section 401 of the CWA to regulate discharges of dredged or fill material to California waters. That section requires an applicant to obtain "water quality certification" from the State Water Resources Control Board (SWRCB) through its Regional Water Quality Control Boards (RWQCB) to ensure compliance with state water quality standards before certain federal licenses or permits may be issued. The permits subject to Section 401 include permits for the discharge of dredged or fill materials (CWA Section 404 permits) issued by the USACE. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. With the recent changes that limited the jurisdiction of wetlands under the CWA, the SWRCB has needed to rely on the report of waste discharge process.

## 3.4 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- 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;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- 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 any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

### *3.4.1 California Native Plant Society*

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS List 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

### 3.5 El Dorado County General Plan

In addition to federal and State regulations, *The El Dorado County General Plan* (General Plan) includes goals, objectives, and policies regarding biological resources. Sections relevant to this project are summarized below.

**CONSERVATION AND PROTECTION OF WATER RESOURCES**

**GOAL 7.3: WATER QUALITY AND QUANTITY**
**Conserve, enhance, and manage water resources and protect their quality from degradation.**

**OBJECTIVE 7.3.1: WATER RESOURCE PROTECTION**
**Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.**

*Policy 7.3.1.1* *Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.*

*Policy 7.3.1.2* *Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.*

*Policy 7.3.1.3* *The County shall develop the criteria and draft an ordinance to allow and encourage the use of domestic gray water for landscape irrigation purposes. (See Title 22 of the State Water Code and the Graywater Regulations of the Uniform Plumbing Code).*

**OBJECTIVE 7.3.2: WATER QUALITY**
**Maintenance of and, where possible, improvement of the quality of underground and surface water.**

*Policy 7.3.2.1* *Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.*

*Policy 7.3.2.2* *Projects requiring a grading permit shall have an erosion control program approved, where necessary.*

*Policy 7.3.2.3* *Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water*

*Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).*

*Policy 7.3.2.4* *The County should evaluate feasible alternatives to the use of salt for ice control on County roads.*

*Policy 7.3.2.5* *As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.*

**OBJECTIVE 7.3.3: WETLANDS**

**Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.**

*Policy 7.3.3.1* *For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual*

*Policy 7.3.3.2* *Intentionally blank*

*Policy 7.3.3.3* *The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.*

*Policy 7.3.3.4* *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*

*Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.*

*Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.*

*For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.*

*Policy 7.3.3.5* *Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.*

**OBJECTIVE 7.3.4: DRAINAGE**
**Protection and utilization of natural drainage patterns.**

*Policy 7.3.4.1* *Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.*

*Policy 7.3.4.2* *Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.*

**OBJECTIVE 7.3.5: WATER CONSERVATION**
**Conservation of water resources, encouragement of water conservation, and construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops and for other irrigation and wildlife enhancement projects.**

*Policy 7.3.5.1* *Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.*

*Policy 7.3.5.2* *A list of appropriate local indigenous drought tolerant plant materials shall be maintained by the County Planning Department and made available to the public.*

*Policy 7.3.5.3 The County Parks and Recreation Division shall use drought tolerant landscaping for all new parks and park improvement projects.*

*Policy 7.3.5.4 Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.*

*Policy 7.3.5.5 Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.*

**CONSERVATION OF BIOLOGICAL RESOURCES**

**GOAL 7.4: WILDLIFE AND VEGETATION RESOURCES**
**Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.**

**OBJECTIVE 7.4.1: RARE, THREATENED, AND ENDANGERED SPECIES**
**The County shall protect State and federally recognized rare, threatened, or endangered species and their habitats consistent with Federal and State laws.**

*Policy 7.4.1.1 The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS's Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).*

*Policy 7.4.1.2 Private land for preserve sites will be purchased only from willing sellers.*

*Policy 7.4.1.3 Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study, and education. In conjunction with use as passive recreational areas, develop a rare plant educational and interpretive program.*

*Policy 7.4.1.4 Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (-EP) overlay on the General Plan land use map.*

*Policy 7.4.1.5 Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special-status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is*

*determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.*

*Policy 7.4.1.6* *All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).*

*The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.*

*Policy 7.4.1.7* *The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.*

**OBJECTIVE 7.4.2: IDENTIFY AND PROTECT RESOURCES**
**Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.**

*Policy 7.4.2.1* *To the extent feasible in light of other General Plan policies and to the extent permitted by State law, the County of El Dorado will protect identified critical fish and wildlife habitat, as identified on the Important Biological Resources Map maintained at the Planning Department, through any of the following techniques: utilization of open space, Natural Resource land use designation, clustering, large lot design, setbacks, etc.*

*Policy 7.4.2.2* *Where critical wildlife areas and migration corridors are identified during review of projects, the County shall protect the resources from degradation by requiring all portions of the Study Area that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the Study Area or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the*

*preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.*

*Policy 7.4.2.3* *Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.*

*Policy 7.4.2.4* *Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.*

*Policy 7.4.2.5* *Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.*

*Policy 7.4.2.6* *El Dorado County Biological Community Conservation Plans shall be required to protect, to the extent feasible, rare, threatened, and endangered plant species only when existing federal or State plans for non-jurisdictional areas do not provide adequate protection.*

*Policy 7.4.2.7* *The County shall form a Plant and Wildlife Technical Advisory Committee to advise the Planning Commission and Board of Supervisors on plant and wildlife issues, and the committee should be formed of local experts, including agricultural, fire protection, and forestry representatives, who will consult with other experts with special expertise on various plant and wildlife issues, including representatives of regulatory agencies. The Committee shall formulate objectives which will be reviewed by the Planning Commission and Board of Supervisors.*

*Policy 7.4.2.8* *Develop within five years and implement an Integrated Natural Resources Management Plan (INRMP) that identifies important habitat in the County and establishes a program for effective habitat preservation and management. The INRMP shall include the following components:*

*A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:*

*1. Habitats that support special-status species;*

2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

*The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFW, and USFWS. The inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.*

B. *Habitat Protection Strategy. This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below). Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

C. *Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INRMP.*

D. *Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core*

*habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special-status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the El Dorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.*

E. *Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions. Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.*

F. *Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special-status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.*

G. *Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state, and federal agencies having jurisdiction over natural resources within the County.*

H. *Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees,*

*and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.*

*Policy 7.4.2.9* *The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay.*

- *Increased minimum parcel size;*
- *Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;*
- *Lower thresholds for grading permits;*
- *Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;*
- *Increased riparian corridor and wetland setbacks;*
- *Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);*
- *Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;*
- *Building permits discretionary or some other type of "site review" to ensure that canopy is retained;*
- *More stringent standards for lot coverage, floor area ratio (FAR), and building height; and*
- *No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).*

*The standards listed above shall be included in the Zoning Ordinance.*

*Wildland Fire Safe measures are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor.*

**OBJECTIVE 7.4.3: COORDINATION WITH APPROPRIATE AGENCIES**
**Coordination of wildlife and vegetation protection programs with appropriate federal and State agencies.**

**PRESERVATION OF OPEN SPACE**

**GOAL 7.6: OPEN SPACE CONSERVATION**

**Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for wildlife habitat.**

**OBJECTIVE 7.6.1: IMPORTANCE OF OPEN SPACE**

**Consideration of open space as an important factor in the County's quality of life.**

*Policy 7.6.1.1 The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below. In addition, the designations on the land use map for Rural Residential and Natural Resource areas are also intended to implement said goals and objectives. Primary purposes of open space include:*

*A. Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, banks of rivers and streams and watershed lands;*

*B. Conserving natural resource lands for the managed production of resources including forest products, rangeland, agricultural lands important to the production of food and fiber; and areas containing important mineral deposits;*

*C. Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and streams, trails and scenic highway corridors;*

*D. Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality; and*

*E. Providing for open spaces to create buffers which may be landscaped to minimize the adverse impact of one land use on another.*

*Policy 7.6.1.2 The County will provide for Open Space lands through:*

*A. The designation of land as Open Space;*

*B. The designation of land for low-intensity land uses as provided in the Rural Residential and Natural Resource land use designations;*

*C. Local implementation of the Federal Emergency Management Agency's National Flood Insurance Program;*

*D. Local implementation of the State Land Conservation Act Program; and*

*E. Open space land set aside through Planned Developments (PDs).*

*Policy 7.6.1.3 The County shall implement Policy 7.6.1.1 through zoning regulations and the administration thereof. It is intended that certain districts and certain requirements in zoning regulations carry out the purposes set forth in Policy 7.6.1.1 as follows:*

*A. The Open Space (OS) Zoning District is consistent with and shall implement the Open Space designation of the General Plan land use map and all other land use designations.*

*B. The Agricultural (A), Exclusive Agricultural (AE), Planned Agricultural (PA), Select Agricultural (SA-10), and Timberland Production Zone (TPZ) zoning districts are consistent with Policy 7.6.1.1 and serve one or more of the purposes set forth therein.*

*C. Zoning regulations shall provide for setbacks from all flood plains, streams, lakes, rivers and canals to maintain Purposes A, B, C, and D set forth in Policy 7.6.1.1.*

*D. Zoning regulations shall provide for maintenance of permanent open space in residential, commercial, industrial, agricultural, and residential agricultural zone districts based on standards established in those provisions of the County Code. The regulations shall minimize impacts on wetlands, flood plains, streams, lakes, rivers, canals, and slopes in excess of 30 percent and shall maintain Purposes A, B, C, and D in Policy 7.6.1.1.*

*E. Landscaping requirements in zoning regulations shall provide for vegetative buffers between incompatible land uses in order to maintain Purpose E in Policy 7.6.1.1.*

*F. Zoning regulations shall provide for Mineral Resource Combining Zone Districts and/or other appropriate mineral zoning categories which shall be applied to lands found to contain important mineral deposits if development of the resource can occur in compliance with all other policies of the General Plan. Those regulations shall maintain Purposes A, B, C, D, and E of Policy 7.6.1.1.*

*Policy 7.6.1.4 The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.*

### *3.5.1 El Dorado County General Plan Section 7.4.4.4*

The El Dorado County General Plan, adopted in 2004, regulates impacts to tree canopy under General Plan Policy 7.4.4.4. This policy set forth percentages of on-site canopy retention requirements for development projects until the County developed a County-wide strategy. In 2008, the County adopted the El Dorado County Oak Woodland Management Plan (OWMP) to implement these General Plan oak woodland protection policies. The County's adoption of the OWMP was challenged in court. In 2012, the Appellate Court upheld the CEQA challenge to the OWMP and directed the County to prepare an Environmental Impact Report for the OWMP. Currently, a General Plan amendment is being prepared to clarify and refine the County's oak tree protection policies.

As a result, only Option "A" of Policy 7.4.4.4 is applicable to oak woodland mitigation. Impacts to oak woodland canopy are currently assessed under the *Interim Interpretive Guidelines* amended October 12, 2007.

*Policy 7.4.4.4 For all new development projects (not including agricultural cultivation and actions pursuant to an approved Fire Safe Plan necessary to protect existing structures, both of which are exempt from this policy) that would result in soil disturbance on parcels that (1) are over an acre and have at least 1 percent total canopy cover or (2) are less than an acre and have at least 10 percent total canopy cover by woodlands habitats as defined in this General Plan and determined from base line aerial photography or by site survey performed by a qualified biologist or licensed arborist, the County shall require one of two mitigation options: (1) the project applicant shall adhere to the tree canopy retention and replacement standards described below; or (2) the project applicant shall contribute to the County's Integrated Natural Resources Management Plan (INRMP) conservation fund described in Policy 7.4.2.8.*

***Option A***

*The County shall apply the following tree canopy retention standards:*

| Percent Existing Canopy Cover | Canopy Cover to be Retained |
|---|---|
| 80–100 | 60% of existing canopy |
| 60–79 | 70% of existing canopy |
| 40–59 | 80% of existing canopy |
| 20–39 | 85% of existing canopy |
| 10-19 | 90% of existing canopy |
| 1-9 for parcels > 1 acre | 90% of existing canopy |

*Under Option A, the project applicant shall also replace woodland habitat removed at 1:1 ratio. Impacts on woodland habitat and mitigation requirements shall be addressed in a Biological Resources Study and Important Habitat Mitigation Plan as described in Policy 7.4.2.8. Woodland replacement shall be based on a formula, developed by the County, that accounts for the number of trees and acreage affected.*

## 3.6 City of Folsom Tree Ordinance

The City of Folsom Tree Preservation Ordinance (Municipal Code Chapter 12.16) regulates both the removal of protected trees and the encroachment of construction activities within their driplines. Protected trees include native oak trees with a trunk diameter of 6 inches or greater (measured at 54 inches above grade), or a multiple trunked oak tree with an aggregate trunk diameter of 20 inches or greater and street trees or landmark trees of any species.

## 4.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2015. California Natural Diversity Data Base (CNDDB: *Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, Latrobe, Sloughhouse, Carbondale,* and *Irish Springs* U.S. Geological Survey (USGS) 7.5-minute series quadrangle (quadrangle)), Sacramento, CA. [Accessed 02/06/2015] (**Appendix A**);

- California Native Plant Society (CNPS). 2015. Inventory of Rare and Endangered Plants (online edition, v8-01a) (CNPS: *Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, Latrobe, Sloughhouse, Carbondale,* and *Irish Springs* quadrangles). [Accessed 02/06/2015] (**Appendix A**);

- U.S. Fish and Wildlife Service (USFWS). 2015. *Federal Endangered and Threatened Species that may be affected by Projects in the Folsom SE, Clarksville, and Latrobe 7.5-minute series Quadrangles*. Sacramento, CA. [Accessed 02/06/2015] (**Appendix A**);

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1993. *Soil Survey of Sacramento County, California*. U.S. Department of Agriculture; and

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. U.S. Department of Agriculture.

Although the Study Area occurs on the *Folsom SE, Clarksville,* and *Latrobe* quadrangles, the majority of the Study Area occurs within the *Folsom SE* quadrangle. Therefore, the CDFW (2015) and CNPS (2015) species queries included the eight quadrangles surrounding the *Folsom SE* quadrangle.

Foothill Associates' biologists conducted biological surveys and delineations on December 18, 19, 23, and 29, 2014 and on January 13, 2015. The surveys consisted of conducting botanical inventories, evaluating biological communities, mapping wetlands and waterways, and documenting potential habitat for special-status species with the potential to occur within the Study Area. The botanical inventories were conducted in accordance CDFW's (2009) protocol plant surveys. Plants and wildlife observed within the Study Area are identified in **Appendix B**. The results of the wetland delineation are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2015).

# 5.0 RESULTS

## 5.1 Site Location and Description

The ±124-acre Study Area is located within the SPTC from mile post 116, located within the Folsom City limits at Iron Point Road and Placerville Road in Sacramento County, south to mile post 126 near the community of Latrobe, in El Dorado County. The Study Area is located within Township 9 North, Range 8 East, Sections 8, 9, 15, 16, 22, 23, 25, 26, and 36, Township 9 North, Range 9 East, Sections 29, 30, 31, and 32, and Township 8 North, Range 9 East, Sections 4, 5, and 9 of the *Clarksville*, *Folsom SE*, and *Latrobe* quadrangles. The approximate location of the Study Area is 38° 35' 58.8" North, 121° 2' 30.0" West (**Figure 1**).

The Study Area is historically a Southern Pacific railroad easement that ranges from 66 to 200 feet in width. The Study Area is comprised primarily of disturbed/developed areas and disturbed non-native annual grassland. Oak woodland surrounds the southern half of the Study Area. Several drainages and seasonal wetlands occur within the Study Area.

## 5.2 Physical Features

### *5.2.1 Topography and Drainage*

The general topography of the Study Area has been largely influenced by the construction of the railroad. The immediate area paralleling the railroad tracks appears relatively flat, but maintains a three percent grade or less through its length. The rest of the corridor land varies widely from gently sloping to steeply sloping. Elevations range from 423 feet above mean sea level (MSL) in the northern portion of the Study Area to 780 feet above MSL in the southern portion of the Study Area.

The Study Area consists of three main perennial drainages: Carson Creek, Latrobe Creek, and Deer Creek. Carson Creek and Latrobe Creek are tributary to Deer Creek, which flows into the Cosumnes River, a navigable waters of the U.S. The Cosumnes River is tributary to the Sacramento River. Many intermittent and ephemeral drainages bisect the Study Area. These drainages generally begin east of the Study Area as head waters in the foothills, and flow west to the main drainages.

### *5.2.2 Soils*

The Natural Resources Conservation Service (NRCS) mapped 11 soil units within the Study Area (**Figure 2**). General characteristics associated with these soils types are described below (USDA, NRCS 1974, 1993, and 2013).

**Sacramento County**

- **(107) Argonaut-Auburn Complex, 3 to 8 Percent Slopes**: This soil unit is composed of approximately 45 percent Argonaut soil and 35 percent Auburn soil.

This soil type is found in foothills from 160 to 660 feet above mean sea level (MSL). The native vegetation of this soil type is annual grasses and herbaceous species with a few scattered oaks. The Argonaut soil is moderately deep and well drained. Permeability is very slow and runoff is medium. It formed in material weathered from metaandesite and metamorphic rocks. The Auburn soil is shallow or moderately deep and well-drained. It formed in material weathered from metabasic and metasedimentary rocks. Permeability is moderate and runoff is medium. The hydric soils list for Sacramento County does not identify this soil type as hydric (USDA, NRCS 2014).

- **(110) Auburn-Argonaut-Rock Outcrop Complex, 8 to 30 Percent Slopes**: This soil unit is composed of approximately 40 percent Auburn soil, 35 percent Argonaut soil, and 10 percent rock outcrop. This soil unit is found in foothills from 150 to 830 feet above MSL. The Auburn soil is shallow or moderately deep and well-drained. It formed in material weathered from metabasic and metasedimentary rocks. Permeability is moderate and runoff is medium. The Argonaut soil is moderately deep and well drained. Permeability is very slow and runoff is medium. It formed in material weathered from metaandesite and metmorphic rocks. The hydric soils list for Sacramento County does not identify this soil type as hydric (USDA, NRCS 2014).

- **(237) Whiterock Loam, 3 to 30 Percent Slopes**: This soil unit is found on foothills from 160 to 530 feet above MSL. This soil type is material weathered from vertically tilted metasedimentary rocks. This soil type is very shallow and somewhat excessively drained. Permeability is moderate and runoff is medium or rapid. The hydric soils list for Sacramento County does not identify this soil type as hydric (USDA, NRCS 2014).

**El Dorado County**

- **(AmD) Argonaut Very Rocky Loam, 3 to 30 Percent Slopes**: This soil unit is found on ridges between 120 and 2,500 feet above MSL. Argonaut soil consists of well drained soils with a depth to water table of more than 80 inches. This soil type has a parent material of residuum weathered from andesite and/or residuum weathered from metasedimentary rock. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2014).

- **(AyF) Auburn Extremely Rocky Silt Loam, 3 to 70 Percent Slopes**: This soil unit occurs on slopes that dominantly range from 15 to 50 percent. Bedrock outcroppings occur on the surface of this soil type at a frequency of 25 to 50 percent. The Auburn series consists of well drained soils underlain by hard metamorphic rocks at a depth of 12 to 20 inches. Permeability is moderate and surface runoff is slow to very rapid. The hydric soils list for El Dorado County does not identify this soil as hydric (USDA, NRCS 2014).

- **(AwD) Auburn Silt Loam, 2 to 30 Percent Slopes**: This soil unit occurs on undulating to very steep foothills, typically located between 500 to 1,800 feet above

MSL. Bedrock outcroppings occur on the surface of this soil type at a frequency of less than 5 percent. The Auburn series consists of well drained soils underlain by hard metamorphic rocks at a depth of 12 to 26 inches. Permeability is moderate and surface runoff is slow to medium. The hydric soils list for El Dorado County does not identify this soil as hydric (USDA, NRCS 2014).

- **(AxD) Auburn Very Rocky Silt Loam, 2 to 30 Percent Slopes**: This soil unit occurs on the more prominent steep to very steep foothills and slopes descending into creek channels and drainageways, typically located between 500 to 1,800 feet above MSL. Bedrock outcroppings occur on the surface of this soil type at a frequency of 5 to 25 percent. The Auburn series consists of well drained soils underlain by hard metamorphic rocks at a depth of 12 to 26 inches. Permeability is moderate and surface runoff is slow to medium. The hydric soils list for El Dorado County does not identify this soil as hydric (USDA, NRCS 2014).

- **(PgB) Perkins Gravelly Loam, Moderately Deep Variant, 2 to 5 Percent Slopes**: This soil unit is found on hillslopes from 450 feet to 700 feet above MSL. This soil type has a parent material of consolidated gravelly alluvium derived from igneous, metamorphic and secimentary rock. The depth to water table for this soil type is more than 80 inches. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2014).

- **(PrD) Placer Diggings**: This soil type is found in channels and has a parent material of alluvium derived from mixed sources. The depth to restrictive feature is more than 80 inches. The hydric soils list for El Dorado County identifies this soil type as hydric (USDA, NRCS 2014).

- **(TaD) Tailings**: This soil type consists of fragmental material. Available water storage in profile is very low. The hydric soils list for El Dorado County identifies this soil type as hydric (USDA, NRCS 2014).

- **(WhE) Whiterock Gravelly Silt Loam, 3 to 50 Percent Slopes**: This soil is found on hillslopes from 300 feet to 2,000 feet above MSL. This soil type has a parent material of residuum weathered from slate. The depth to water table for this soil is more than 80 inches. The hydric soils list for El Dorado County does not identify any hydric components or inclusions as present within this soil type (USDA, NRCS 2014).

## 5.3 Wildlife Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to

move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The Study Area is not part of a major or local wildlife corridor/travel route because it does not connect two significant habitats. The center of the Study Area consists of developed areas comprised of an existing railroad track. The proposed project would run parallel to the existing developed areas. Although the perennial drainages that cross beneath the Study Area act as wildlife corridors, the proposed project would run parallel to the existing developed areas above these drainages and would therefore, not impede wildlife movement.

## 5.4 Biological Communities

The following biological communities occur within the Study Area: disturbed/developed, disturbed non-native grassland, oak woodland, riparian, seasonal wetland, perennial drainage, intermittent drainage, and ephemeral drainage. **Table 1** summarizes the biological communities by acreages. Dominant vegetation observed within each biological community is discussed in detail below. The biological communities are shown in **Figure 4 (Sheets 1 through 11)**.

**Table 1 — Biological Communities by Acreages**

| Biological Community | Acreage[1] |
|---|---|
| Disturbed/Developed | 30.95 |
| Disturbed Non-Native Annual Grassland | 67.02 |
| Oak Woodland | 23.33 |
| Riparian | 0.05 |
| Seasonal Wetland | 0.91 |
| Perennial Drainage | 0.64 |
| Intermittent Drainage | 0.17 |
| Ephemeral Drainage | 0.64 |
| **Total** | **123.71** |

[1]GIS calculations may not reflect exact acreage of Study Area due to rounding.

### *5.4.1 Disturbed/Developed*

Disturbed/developed occurs throughout the Study Area and is comprised of the railroad track and the associated gravel surrounding the railroad track and ornamental landscaping. The majority of the disturbed/developed areas lack vegetation.

### *5.4.2 Non-Native Annual Grassland*

The majority of the Study Area is comprised of disturbed non-native annual grassland, which is characterized primarily by an assemblage of non-native grasses and herbaceous

species. Dominant vegetation includes soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oat (*Avena barbata*), barley (*Hordeum murinum* ssp. *leporinum*), winter vetch (*Vicia villosa*), and pigweed (*Amaranthus* sp.).

### *5.4.3 Oak Woodland*

Oak woodland occurs within the southeastern portion of the Study Area. This habitat type has a canopy of blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*), and gray pine (*Pinus sabiniana*) with an understory of non-native annual grassland.

### *5.4.4 Riparian*

Riparian habitat occurs within the Study Area surrounding the perennial aquatic features. Dominant vegetation includes willow (*Salix* sp.), Himalayan blackberry (*Rubus armeniacus*), Fremont cottonwood (*Populus fremontii*), gray pine, and interior live oak.

### *5.4.5 Seasonal Wetland*

Seasonal wetlands occur within the Study Area. Dominant vegetation includes cattail (*Typha* sp.), perennial ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum*), cocklebur (*Xanthium strumarium*), spikerush (*Eleocharis macrostachya*), curly dock (*Rumex crispus*), and flat nutsedge (*Cyperus eragrostis*).

### *5.4.6 Perennial Drainage*

Three perennial drainages occur within the Study Area. These include Carson Creek, Latrobe Creek, and Deer Creek. Dominant vegetation includes those identified within the riparian biological community.

### *5.4.7 Intermittent Drainage*

Several intermittent drainages occur within the Study Area. Dominant species occurring along the banks of the intermittent drainages include curly dock, perennial ryegrass, Mediterranean barley, and cocklebur.

### *5.4.8 Ephemeral Drainage*

Several ephemeral drainages occur within the Study Area. Dominant species occurring along the banks of the ephemeral drainages consist of upland species including barley, soft chess, wild oat, and ripgut grass.

## 5.5 Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized

habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under the CESA or the FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- CDFW Species of Special Concern;
- Plant species ranked by the CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on the CNDDB, CNPS, and USFWS lists. CNDDB occurrences of special-status species documented within five miles of the Study Area are illustrated within **Figure 3**. **Appendix C** includes the common and scientific names for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence on the Study Area. The following set of criteria has been used to determine each species potential for occurrence within the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological surveys.

- **High**: Species known to occur on or near the Study Area (based on CNDDB records within 5 miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.

- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the site, however, there is suitable habitat on the site.

- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area **-OR-** Species was surveyed for during the appropriate season with negative results **-OR-** Species is not known in El Dorado County.

Only those species that are known to be present or that have a high or low potential for occurrence will be discussed further following **Appendix C**.

### *5.5.1 Listed and Special-Status Plants*

The following special-status plants have a *high* potential to occur within the Study Area, Brandegee's clarkia. The following special-status plants have a *low* potential to occur within the Study Area: Ahart's dwarf rush, dwarf downingia, Jepson's woolly sunflower, and Tuolumne button-celery. These species are discussed in detail below.

## Species with a High Potential to Occur

Brandegee's Clarkia

Brandegee's clarkia is an annual herb found in chaparral and cismontane woodland, often in roadcuts, from 73 to 915 meters. The blooming period for this species is from May through July (CNPS 2015). There is one CNDDB record for this species within five miles of the Study Area (**Figure 3**). The oak woodland within the Study Area provides habitat for this species. Because the biological surveys were conducted outside of the evident and identifiable period for Brandegee's clarkia, the species could potentially be present within the Study Area and not have been detected. This species has *high* potential to occur within the Study Area.

## Species with a Low Potential to Occur

Ahart's Dwarf Rush

Ahart's dwarf rush is an annual herb found on mesic soils in valley and foothill grassland from 30 to 100 meters. The blooming period is from March through May (CNPS 2015). There are no CNDDB records for Ahart's dwarf rush within five miles of the Study Area. The disturbed non-native annual grassland within the Study Area provide potential habitat for Ahart's dwarf rush. Because the biological surveys were conducted outside of the evident and identifiable period for Ahart's dwarf rush, the species could potentially be present within the Study Area and not have been detected. This species has a *low* potential to occur within the Study Area.

Dwarf Downingia

Dwarf downingia is an annual herb found in mesic valley and foothill grassland and vernal pools from 1 to 450 meters. The blooming period is from March through May (CNPS 2015). There are no CNDDB records for this species within five miles of the Study Area. The disturbed non-native annual grassland within the Study Area provides potential habitat for dwarf downingia. Because the biological surveys were conducted outside of the evident and identifiable period for dwarf downingia, the species could potentially be present within the Study Area and not have been detected. This species has a *low* potential to occur within the Study Area.

Jepson's Woolly Sunflower

Jepson's woolly sunflower is a perennial herb sometimes found on serpentinite substrate within chaparral, cismontane woodland, and coastal scrub from 200 to 1,025 meters. The blooming period is from April through June (CNPS 2015). There are no CNDDB records for this species within five miles of the Study Area. The oak woodland within the Study Area provides potential habitat for Jepson's woolly sunflower. Because the biological surveys were conducted outside of the evident and identifiable period for Jepson's woolly sunflower, the species could potentially be present within the Study Area and not have been detected. This species has a *low* potential to occur within the Study Area.

Tuolumne Button-Celery

Tuolumne button-celery is an annual to perennial herb found in mesic cismontane woodland, lower montane coniferous forest, and vernal pools from 70 to 915 meters. The blooming period is from June through August (CNPS 2015). There are no CNDDB records for this species within five miles of the Study Area. The oak woodland within the Study Area provides potential habitat for Tuolumne button-celery. Because the biological surveys were conducted outside of the evident and identifiable period for Tuolumne button-celery, the species could potentially be present within the Study Area and not have been detected. This species has a *low* potential to occur within the Study Area.

### *5.5.2 Listed and Special-Status Wildlife*

The following special-status wildlife species have a *high* potential to occur or were observed within the Study Area: western pond turtle, burrowing owl, golden eagle, Swainson's hawk, tricolored blackbird, white-tailed kite, and migratory birds and other birds of prey. The following special-status wildlife species have a *low potential* to occur within the Study Area: California red-legged frog (CRLF), western spadefoot toad, grasshopper sparrow, American badger, and special-status bats. These species are discussed in detail below.

#### Species with a High Potential to Occur

Western Pond Turtle

Western pond turtles require slow moving perennial aquatic habitats with suitable basking sites. Western pond turtles occasionally inhabit irrigation ditches. Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). There are four CNDDB records for this species within five miles of the Study Area (**Figure 3**). The perennial and intermittent drainages and riparian habitat provide habitat for the species. No western pond turtles were observed within the Study Area during the biological surveys. This species has a *high* potential to occur within the Study Area.

Burrowing Owl

Burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico, and east to Texas and Louisiana. Although in certain areas of its range burrowing owls are migratory, these owls are predominantly non-migratory in California. The breeding season for burrowing owls occurs from March to August, peaking in April and May (Zeiner *et. al.* 1990). Burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. Burrowing owl is also known to use artificial burrows including pipes, culverts, and nest boxes. In California, the breeding season for burrowing owl is from February 1 to August 31 (Haug *et al.* 1993). There are four CNDDB records for this species within five miles of the Study Area (**Figure 3**). This species was observed wintering in a box culvert beneath the railroad during the

December 2014 biological surveys of the Study Area. The burrows within disturbed non-native annual grassland and the culverts along the railroad provide habitat for this species. This species has a *high* potential to occur within the Study Area.

Golden Eagle

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year and after year. Breeding occurs from January through August (Kochert *et al.* 2002). Golden eagle home range territories vary widely from 8 to 77 square miles (McGrady 1997) and are estimated to average 48 square miles in northern California (Zeiner *et al.* 1990). Although only one nest is used each year, a territory may contain multiple alternate nests. Typically, there are between 6 and 14 nests are found in a territory (Kochert *et al.* 2002). Golden eagles may use the same nest for multiple years or use new nest sites every year (Watson 2010).

An active golden eagle nest was identified approximately 1.9 miles northeast of the Study Area in 2013 and 2014. The nest is located on a foothill pine (*Pinus sabiniana*) on a hillslope surrounded by oak woodland. Existing residences are located uphill within 300 feet of the nest on the north and east. Two juvenile and two adult golden eagles were observed at the nest in August 2013. A pair of adult eagles returned to the nest in 2014 and successfully raised one eaglet, which fledged by June 18, 2014. The extent of this territory and locations of alternate nests are unknown. In December 2014, the nest tree fell over.

No golden eagles were observed during the biological surveys of the Study Area. The trees within the riparian habitat and oak woodland provide nesting habitat and the disturbed non-native annual grassland provides foraging habitat for this species. This species has a *high* potential to nest and forage within the Study Area.

Swainson's Hawk

Swainson's hawk is a long-distance migrant with nesting grounds in western North America. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury *et. al.* in prep.). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner *et. al.* 1990). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water 1994).

There are five CNDDB records for this species within five miles of the Study Area (**Figure 3**). The nearest CNDDB occurrence (occurrence number 200) is from 1982 and is approximately 1.1 miles southwest of the Study Area. Occurrence number 200 states that one adult was observed, but no nests were found. The next nearest occurrence (occurrence number 2662) is from 1962 and is approximately 3.2 miles northwest of the Study Area. Occurrence number 2662 states that an active nest was observed in a black oak. The next nearest occurrence (occurrence number 2203) is from 2011 and is approximately 4.25 miles southwest of the Study Area. Occurrence number 2203 states that a pair was observed nest-building in April. No Swainson's hawks were observed in the vicinity of the Study Area during the biological surveys. Swainson's hawks have the potential to nest within the trees within the riparian habitat and oak woodland and forage within the disturbed non-native annual grassland within the Study Area. This species has a *high* potential to nest and forage within the Study Area.

Tricolored Blackbird

Tricolored blackbird is a colonial species that occurs in pastures, dry seasonal pools, and agricultural fields in the Central Valley and the foothills surrounding the valley. This species usually nests with dense cattails or tules (*Scirpus* sp.) in emergent wetlands. Tricolored blackbird also nests in thickets of blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), willows, and tall herbs (Zeiner *et. al.* 1990). Nesting locations typically must be large enough to support a minimum colony of approximately 50 pairs (Zeiner *et. al.* 1990). There are six CNDDB records for this species within five miles of the Study Area (**Figure 3**). The disturbed non-native annual grassland provides foraging habitat for this species. The riparian vegetation within and around the perennial drainages provide nesting habitat for this species. However, the majority of the vegetation is comprised of willows and the patch sizes of Himalayan blackberry are most likely not of sufficient size to support a breeding colony. No tricolored blackbirds were observed within the Study Area. This species has a *high* potential to forage within the Study Area, but is unlikely to nest within the Study Area.

White-Tailed Kite

White-tailed kite is a yearlong resident in coastal and valley lowlands in California. White-tailed kite breed from February to October, peaking from May to August (Zeiner *et. al.* 1990). This species nests near the top of dense oaks, willows, or other large trees. There are five CNDDB records of white-tailed kite listed within five miles of the Study Area (**Figure 3**). The trees within the riparian habitat provide nesting habitat for this species. This species has a *high* potential to nest within the Study Area.

Migratory Birds and Other Birds of Prey

Migratory birds and other birds of prey, protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code, have the potential to nest in the disturbed non-native annual grassland, in culverts and burrows along the railroad tracks within the disturbed/developed areas, and trees and shrubs within the oak woodland and riparian habitat. In addition, hundreds of remnant cliff swallow (*Petrochelidon*

*pyrrhonota*) nests were observed beneath the Highway 50. Although none of these nests were occupied during the December 2014 and January 2015 biological surveys, these surveys were conducted outside of the nesting season. It is assumed that these swallows will return to these nest sites during the nesting season in subsequent years. Several birds protected under the MBTA and/or Section 3503 of the California Fish and Game Code were observed foraging within the Study Area including Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird, northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and western meadowlark (*Sturnella neglecta*). Migratory birds and other birds of prey have a *high* potential to nest within the Study Area during the nesting season. The generally accepted nesting season is from February 15 through August 31.

### Species with a Low Potential to Occur

Valley Elderberry Longhorn Beetle (VELB)

The USFWS considers the range of VELB to include the watersheds of the American, San Joaquin, and Sacramento River and their tributaries up to approximately 3,000 feet above MSL (USFWS 1980). VELB are completely dependent on elderberry (*Sambucus* sp.) shrubs as their host plants during their entire life cycle. VELB typically utilize stems that are greater than one inch in diameter at ground level (DGL) (USFWS 1994).

There are two CNDDB occurrences for this species within five miles of the Study Area (**Figure 3**). Elderberry shrubs occur within the eastern portion of the Study Area. Two elderberry shrubs occur within the eastern portion of the Study Area. None of the elderberry shrub stems measuring one-inch DGL contain exit holes nor do any occur within riparian habitat. The shrubs are growing individually in annual grassland. Given that no VELB were observed, that no elderberry shrubs contain exit holes, and that the two shrubs do not occur within the riparian areas, it is unlikely that VELB occurs within the Study Area.

California Red-Legged Frog (CRLF)

CRLF typically inhabit ponds, slow-moving creeks, and streams with deep pools that are lined with dense emergent marsh or shrubby riparian vegetation. Submerged root masses and undercut banks are important habitat features for this species. Although CRLF historically occurred throughout much of the Central Valley, it is widely accepted that they have been extirpated from there for more than 50 years. All of the extant records for CRLF in the Sierras are over 800 feet above MSL (Rana Resources 2013). Below this elevation, aquatic habitat generally supports stronger populations of non-native predators associated with warm water habitats such as bullfrogs (*Lithobates catesbeiana*) and Centrarchid fish (Rana Resources 2013). The Study Area occurs between approximately 423 and 780 feet above MSL.

There are no known CNDDB occurrences for this species within five miles of the Study Area. There is a CNDDB occurrence approximately 6.3 miles northeast of the Study

Area along a small drainage feeding directly into the east side of Folsom Lake (Occurrence Number 814), however, the validity of this record is highly questionable due to the low elevation (approximately 500 feet above MSL), the proximity to urban development and to Folsom Lake, and the abundant non-native predators that it supports (Rana Resources 2013). The record states that a juvenile frog was sighted on a small footbridge crossing a drainage leading into Folsom Lake from an adjacent residential development. This frog was most likely a juvenile bullfrog, which, to the untrained eye, can be easily confused with a juvenile CRLF (Rana Resources 2013). Even if this were a valid record, this location is separated from the Study Area by a number of impassible barriers including major roadways and urban development. The nearest valid CNDDB occurrences (Occurrence Numbers 1284 and 1317) are over 25 miles northeast of the Study Area. These occurrences state that CRLF was observed in a series of small pools/wet areas in a drainage stream channel. In addition, existing literature indicates that CRLF may have been extirpated from the floor of the Central Valley prior to the 1960s (USFWS 2002).

The perennial drainages provide habitat for this species and the riparian habitat surrounding the perennial drainages provide upland habitat. Although suitable habitat is present, the Study Area is outside of the known extant elevation range inhabited by CRLF and there are no known CNDDB occurrences for CRLF within 25 miles of the Study Area. No CRLF were observed during the biological surveys of the Study Area. CRLF is unlikely to occur within the Study Area.

Western Spadefoot Toad

Western spadefoot toad prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains from 0 to 1,200 meters. Rain pools containing minimal numbers of bullfrogs, fish, or crayfish and that remain continuously inundated for 30 days are necessary for breeding. There are no CNDDB records of this species within five miles of the Study Area. The seasonal wetlands provide potential breeding habitat for this species. The disturbed non-native annual grassland and oak woodland provide upland habitat for this species. No western spadefoot toads were observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

Grasshopper Sparrow

Grasshopper sparrow inhabits moderately open grasslands and prairies with patchy bare ground. There is one CNDDB record of this species within five miles of the Study Area (**Figure 3**). Although the disturbed non-native annual grassland provides habitat, the soils only provide marginal habitat for this species. No grasshopper sparrows were observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

American Badger

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April (Nature Serve 2014). There are no CNDDB records for this species within five miles of the Study Area. The disturbed non-native annual grassland provides habitat for this species. No American badgers were observed during the biological surveys. This species has a *low* potential to occur within the Study Area.

Special-Status Bat Species

California is home to several special-status bat species. Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for special-status bat species within five miles of the Study Area. No bat species were observed roosting during the biological surveys of the Study Area. The trees within the oak woodland and riparian habitat provide roosting habitat for special-status bats. These species have a *low* potential to roost within the Study Area.

## 5.6 Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the *El Dorado County General Plan*. Sensitive habitats within the Study Area include riparian habitat and potential waters of the U.S., including perennial drainage, ephemeral drainage, seasonal wetland, oak woodland, within El Dorado County, and oak trees, within the City of Folsom.

### *5.6.1 Potential Jurisdictional Waters of the U.S.*

Potential jurisdictional waters of the U.S. within the Study Area total approximately 2.353 acres. This acreage includes: 0.907 acres of seasonal wetland, 0.643 acres of perennial drainage, 0.168 acres of intermittent drainage, and 0.635 acres of ephemeral drainage (**Figure 4**) (**Sheets 1 and 11**).

### *5.6.2 Riparian*

Riparian habitat is considered a sensitive habitat. The CDFW asserts jurisdiction over riparian habitat. There are 0.05 acres of riparian habitat (**Figure 4**) (**Sheets 1 and 11**).

### *5.6.3 Oak Woodland*

Oak woodland habitat is regulated under Section 7.4.4.4 of the *El Dorado County General Plan*. The Study Area contains isolated oak trees within the riparian habitat. These trees are not considered oak woodland habitat due to their isolation from other oak

trees. The Study Area contains oak trees in the oak woodland within the eastern portion of the Study Area, which totals 23.33 acres (**Figure 4**) (**Sheets 1 and 11**).

Native oak trees with a trunk diameter of 6 inches or greater or a multiple trunked oak tree with an aggregate trunk diameter of 20 inches or greater are regulated under the City of Folsom Tree Preservation Ordinance (Municipal Code Chapter 12.16). Removal of protected trees and the encroachment of construction activities within their driplines require a permit. There are no oaks that meet this criterion in the portion of the Study Area within the City of Folsom or the City of Folsom Sphere of Influence.

## 6.0 DISCUSSION AND RECOMMENDATIONS

Biological constraints within the Study Area include known or potential habitat for:

- Special-status plants including Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Brandegee's clarkia (*Clarkia biloba* ssp. *biloba*), dwarf downingia (*Downingia pusilla*), Jepson's woolly sunflower (*Eriophyllum jepsonii*), and Tuolumne button-celery (*Eryngium pinnatisectum*);
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*);
- California red-legged frog (*Rana draytonii*);
- Western pond turtle (*Emys marmorata*);
- Western spadefoot toad (*Spea hammondii*);
- Burrowing owl (*Athene cunicularia*);
- Swainson's hawk (*Buteo swainsoni*);
- Migratory birds and raptors including golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelaius tricolor*), and grasshopper sparrow (*Ammodramus savannarum*);
- American badger (*Taxidea taxus*);
- Special-status bat species; and
- Sensitive habitats (potentially jurisdictional waters of the U.S., oak woodland, and native oak trees.

### 6.1 Special-Status Plants

A qualified botanist should conduct botanical surveys within the evident and identifiable blooming periods for Ahart's dwarf rush (blooms March through May), Brandegee's clarkia (blooms May through July), dwarf downingia (blooms March through May), Jepson's woolly sunflower (blooms April through June), and Tuolumne button-celery (blooms June through August). A minimum of two surveys could be conducted to satisfy the blooming periods for all five plants; one between March and April and the other between June and August. If no special-status plants are observed, the botanist should document the findings in a letter report within two weeks of the final survey and no additional measures are recommended.

If any of the non-listed special-status plants occur within the Study Area, they should be avoided to the extent feasible. If the plants cannot be avoided, a mitigation plan should be prepared in consultation with the CDFW. At minimum, the mitigation plan should include locations where the plants will be transplanted in suitable habitat adjacent to the Study Area, success criteria, and monitoring activities. The CDFW would need to approve the mitigation plan prior to transplantation and commencement of construction activities.

## 6.2 Valley Elderberry Longhorn Beetle

According to the *USFWS Conservation Guidelines for Valley Elderberry Longhorn Beetle* (Guidelines) (USFWS 1999), encroachment within 100 feet from elderberry shrubs with stems measuring at least one inch DGL must be approved by the USFWS and a minimum setback of 20 feet from the driplines of the elderberry shrubs must be maintained. Therefore, the project should be designed to avoid construction activities within 20 feet of the elderberry shrubs. If this is feasible, high visibility construction fencing should be erected at the edge of the construction footprint at a minimum of 20 from the elderberry shrubs.

Project activities that will encroach into the 20-foot minimum setback area are assumed to adversely affect VELB. Therefore, if work is anticipated to occur within 20 feet of the elderberry shrubs, the client should initiate formal Section 7 consultation with the USFWS to determine whether the project would adversely affect the species. If the project would remove the elderberry shrubs, a biological opinion with an incidental take statement must be obtained from the USFWS prior to construction. Project activities that that may directly or indirectly affect elderberry shrubs with stems measuring at least one inch DGL require minimization measures including planting replacement habitat or purchasing mitigation credits from a USFWS-approved mitigation bank. The mitigation ratios vary based on whether exit holes are present and whether the shrubs occur within riparian habitat.

## 6.3 California Red-Legged Frog

Although suitable habitat is present, the Study Area is outside of the known extant elevation and geographic ranges inhabited by CRLF and there are no known CNDDB occurrences for CRLF within 24 miles of the Study Area. However, a pre-construction survey should be conducted within 14 days of commencement of construction activities. If no CRLF are observed, a letter report documenting the results of the survey should be submitted to the applicant, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey will be recommended.

If CRLF are found, the USFWS would be contacted within 24 hours of the survey to initiate formal consultation. No work could commence until authorized by the USFWS.

## 6.4 Western Pond Turtle

The perennial and intermittent drainages and riparian habitat provide habitat for western pond turtle. Pre-construction surveys for western pond turtle are recommended within 14 days prior to the start of ground disturbance within 100 feet of riparian habitat and perennial and intermittent drainages. If no western pond turtle are observed, a letter report documenting the results of the survey should be submitted to the applicant, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey will be recommended.

If western pond turtles are found, consultation with the CDFW is recommended to determine avoidance measures. Recommended avoidance measures include having a qualified biologist on site during all activities within 100 feet of riparian habitat and perennial and intermittent drainages for the purpose of relocating any species found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

### 6.5 Western Spadefoot Toad

The seasonal wetlands provide aquatic habitat and the disturbed non-native annual grassland and oak woodland provide upland aestivation habitat for western spadefoot toad. Pre-construction surveys for are recommended within 14 days prior to the start of ground disturbance. If no western spadefoot toads are observed, a letter report documenting the results of the survey should be submitted to the applicant, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey will be recommended.

If western spadefoot toads are found, consultation with the CDFW is recommended to determine avoidance measures. Recommended avoidance measures include having a qualified biologist on site during grading activities for the purpose of relocating any species found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

### 6.6 Burrowing Owl

A burrowing owl was observed overwintering in a box culvert beneath the railroad tracks within the western portion of the Study Area. A qualified biologist should coordinate with the CDFW to determine an appropriate avoidance and minimization measures and incorporate these measures into an Avoidance and Minimization Plan. Measures may include, but or not limited to, avoiding disturbing occupied burrows during the nesting season (February 1 through August 31), avoiding direct destruction of burrows, conducting pre-construction surveys within 14 days prior to commencement of construction activities, and use of buffer zones and visual screens where burrowing owls are known to occur. Ground disturbing activities should not commence until the CDFW approves the Avoidance and Minimization Plan.

### 6.7 Swainson's Hawk Nesting

Prior to the commencement of construction activities during the nesting season for Swainson's hawk (between March 1 and September 15), a qualified biologist should conduct a minimum of two protocol level pre-construction surveys during the recommended survey periods for the nesting season that coincides with the commencement of construction activities, in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The biologist should conduct surveys for nesting Swainson's hawk within ¼ mile of the proposed project footprint

where legally permitted. The biologist will use binoculars to visually determine whether Swainson's hawk nests occur within the ¼ -mile survey area if access is denied on adjacent properties. If no active Swainson's hawk nests are identified on or within ¼ mile of the proposed project footprint within the recommended survey periods, a letter report summarizing the survey results should be submitted to the applicant and the CDFW within 30 days following the final survey, and no additional measures are recommended.

If active Swainson's hawk nests are found within ¼ mile of construction activities, the biologist shall contact the applicant and the CDFW within one day following the pre-construction survey to report the findings. For purposes of this avoidance and minimization requirement, construction activities are defined to include heavy equipment operation associated with construction (use of cranes or draglines, new rock crushing activities) or other project-related activities that could cause nest abandonment or forced fledging within ¼ mile of a nest site between March 1 and September 15. Should an active nest be present within ¼ mile of construction areas, then the CDFW should be consulted to establish an appropriate noise buffer, develop take avoidance measures, determine whether high visibility construction fencing should be erected around the buffer zone, and implement a monitoring and reporting program prior to any construction activities occurring within ¼ mile of the nest. Should the biologist determine that the construction activities are disturbing the nest; the biologist should halt construction activities until the CDFW is consulted. The construction activities should not commence until the CDFW determines that construction activities would not result in abandonment of the nest site. Should the biologist determine that the nest has not been disturbed during construction activities within the buffer zone, then a letter report summarizing the survey results should be submitted to the applicant and the CDFW upon completion of work within the buffer zone.

### 6.8 Swainson's Hawk Foraging

The CDFW considers five or more vacant acres within ten miles of an active nest within the last five years to be significant foraging habitat for Swainson's hawk, the conversion of which to urban uses is considered a significant impact, in accordance with the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk in the Central Valley of California* (CDFW 1994; Staff Report). The Staff Report states that foraging habitat loss greater than one mile and less than five miles from an active nest shall be mitigated at a 0.75:1 ratio. The Study Area occurs within 5 miles of active Swainson's hawk nests documented within the last five years. The removal of more than 5 acres of annual grassland would require mitigation at a 0.75:1 ratio.

### 6.9 Migratory Birds and Other Birds of Prey

Migratory birds and other birds of prey, protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code, including white-tailed kite, tricolored blackbird, and grasshopper sparrow have the potential to nest in the disturbed non-native annual grassland and within the trees and shrubs within the oak woodland and riparian habitat. Vegetation clearing operations, including pruning or removal of trees

and shrubs, should be completed between September 1 and February 14, if feasible. If vegetation removal begins during the nesting season (February 15 to August 31), a qualified biologist should conduct a pre-construction survey for active nests. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, then a letter report would be submitted to the applicant for their records and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional pre-construction survey will be required.

If any active nests are located within the Study Area, an appropriate buffer zone should be established around the nests, as determined by the biologist. The biologist should mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of breeding season or the young have successfully fledged. Buffer zones are typically 100 feet for migratory bird nests and 250 feet for a raptor nest. If active nests are found on site, a qualified biologist should monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. Guidance from CDFW would be recommended if establishing the typical buffer zone is impractical.

Hundreds of remnant cliff swallow nests were observed beneath the Highway 50. Although none of these nests were occupied during the December 2014 and January 2015 biological surveys, these surveys were conducted outside of the nesting season. Exclusionary netting should be installed beneath the Highway 50 Bridge prior to the nesting season if any construction activities are anticipated to occur within 100 feet of the bridge between February 15 and August 31 to eliminate partial nest sites for swallows. If exclusion netting is infeasible, then the Engineer should spray beneath the bridge on a daily basis prior to and during the nesting season to remove partial nests prior to the nests becoming established. If an active nest becomes established before the spraying has initiated, then guidance from the CDFW will be requested prior to commencement of construction activities within 100 feet of the bridge.

### 6.10 American Badger

The disturbed non-native annual grassland provides habitat for American. A pre-construction for American badger is recommended within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report would be submitted to the applicant for their records and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey is recommended.

If American badger is found, consultation with the CDFW is recommended to determine avoidance measures. Recommended avoidance measures include establishing a buffer around the den until it is no longer occupied. If any American badgers are present within the construction footprint, all construction should halt until the species has left the construction area on its own.

## 6.11 Special-Status Bat Species

The trees within the riparian habitat and oak woodland provide roosting habitat for special-status bats. Pre-construction surveys for special-status bat species are recommended within 14 days prior to the start of ground disturbance or tree removal. If no bats are observed, then no additional measures are recommended. If construction does not commence or if any trees anticipated for removal are not removed within 14 days of the pre-construction survey or halts for more than 14 days a new survey is recommended.

If bats are found, consultation with the CDFW is recommended to determine avoidance measures. Recommended avoidance measures establishing a buffer around the roost tree until it is no longer occupied. The tree should not be removed until a biologist has determined that the tree is no longer occupied by the bats.

## 6.12 Sensitive Habitats

Potential jurisdictional waters of the U.S. within the Study Area total approximately 2.353 acres. A preliminary jurisdictional delineation has been prepared and should be submitted to the Corps for their concurrence or verification. These areas are potentially regulated by Sections 404 and 401 of the Clean Water Act. Additionally, these areas are protected under the *El Dorado County General Plan*. Should the Proposed Project result in impacts to any waters of the U.S. and waters of the State, then a Section 404 permit should be obtained by the Corps and a Section 401 Water Quality Certification should be obtained by the Regional Water Quality Control Board (RWQCB) prior to the issuance of a grading permit. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a "no-net-loss" basis in accordance with the Corps mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the Corps and RWQCB.

In addition, if the Proposed Project results in impacts to the bed and bank of the perennial drainages or results in the removal of riparian vegetation, a Section 1600 Streambed Alteration Agreement may be required prior to the issuance of a grading permit. In addition, a minimum setback of 100 feet from perennial streams and 50 feet from the seep and perennial marsh is recommended, in accordance with Policy 7.3.3.4 of the *El Dorado County General Plan*. Exceptions to riparian and wetland buffer and setback requirements may be permitted so long as appropriate mitigation measures and Best Management Practices are incorporated into the project design and are approved by El Dorado County.

An Oak Woodland Canopy Assessment should be prepared for the El Dorado County portion of the Study Area. Option A under General Plan Policy 7.4.4.4 requires projects that involve more than one acre of soil disturbance with at least one percent of canopy cover by woodlands to adhere to the tree canopy retention and replacement standards.

## 6.13 Summary of Avoidance and Minimization Measures

- If wetlands or riparian areas will be impacted by the Proposed Project, apply for appropriate permits from the Corps, the RWQCB, and the CDFW;

- Conduct two botanical surveys for special-status plants (one in March or April and one in June through August);

- Construct the project a minimum of 20 feet from the elderberry shrubs, to avoid habitat for the potentially occurring Valley elderberry longhorn beetle;

- Conduct two protocol level pre-construction surveys during the recommended survey periods for Swainson's hawk;

- Purchase mitigation credits for the removal of Swainson's hawk foraging habitat if impacts to the disturbed non-native annual grassland exceed 5 acres;

- Conduct clearing and tree and shrub removal operations between September 1 and February 14 to minimize potential impacts to nesting birds;

- If construction begins or trees are anticipated for removal during the nesting season (February 15 – August 31), conduct a pre-construction survey for active bird nests within the Study Area;

- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for CRLF, western pond turtle, western spadefoot toad, American badger, and special-status bat species;

- Coordinate with the CDFW to prepare an Avoidance and Minimization Plan for burrowing owl; and

- Prepare an Oak Woodland Canopy Assessment for oak woodland habitat within El Dorado County, in accordance with Option A under *El Dorado County General Plan Policy 7.4.4.4*, if disturbance thresholds are met.

## 7.0 REFERENCES


Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*, second edition. University of California, Berkeley.

Bloom, P. and D. Van De Water. 1994. *Swainson's Hawk in Life on the Edge: A Guide to California's Endangered Natural Resources: Wildlife*. BioSystems Books, Santa Cruz, CA.

Bradbury, M., Estep, J.A., and D. Anderson. In Preparation. *Migratory Patterns and Wintering Range of the Central Valley Swainson's Hawk.*

Calflora. 2015. *The Calflora Database: Information on California plants for Education, Research and Conservation*. Berkeley, California. Available online at: http://www.calflora.org . [Accessed 02/04/2015].

California Department of Fish and Game (CDFG). 1994. *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk in the Central Valley of California.*

California Department of Fish and Wildlife (CDFW), 2009. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. State of California, California Natural Resources Agency. Department of Fish and Wildlife. November 24, 2009.

CDFW. 2015. California Natural Diversity Data Base (CNDDB: *Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, Latrobe, Sloughhouse, Carbondale,* and *Irish Springs* quadrangles), Sacramento, CA. [Accessed 02/06/2015].

California Native Plant Society (CNPS). 2015. Inventory of Rare and Endangered Plants (online edition, v8-01a) (CNPS: *Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, Latrobe, Sloughhouse, Carbondale*, and *Irish Springs* quadrangles). [Accessed 02/06/2015].

City of Folsom Municipal Code. 2015. Tree Preservation Ordinance. Chapter 12.16. Tree Preservation.

El Dorado County. 2007. *Interim Interpretive Guidelines for El Dorado County General Plan Policy 7.4.4.4*. Available online at: http://www.edcgov.us/Government/Planning/General_Plan_Oak_Woodlands.aspx .

El Dorado County. 2004. *El Dorado County General Plan: Conservation and Open Space Element*. El Dorado County Planning Department. Available online at: http://www.co.eldorado.ca.us/Planning/AdoptedGeneralPlan/7_conservation.pdf. Accessed [01/30/2015].

Foothill Associates. 2015. *Delineation of Waters of the United States: ±124-Acre SPTC-JPA Project, City of Folsom, Sacramento County and in El Dorado County, California*. Prepared for the U.S. Army Corps of Engineers. March 6, 2015.

Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*), in A. Poole and F. Gill, editors, The Birds of North America, The Academy of Natural Sciences, Philadelphia, Pennsylvania, and The American Ornithologists' Union, Washington, D.C., USA.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. *Golden Eagle (Aquila chrysaetos), The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available online at: http://bna.birds.cornell.edu/bna/species/684.

McGrady, M.J. 1997. "Golden Eagle". *Birds of the Western Palearctic Update*, 1: 99-114.

Nature Serve. 2014. *Nature Serve Explorer: An Online Encyclopedia of Life* [Web Application]. Version 7.1. Last updated July 2013. NatureServe, Arlington, Virginia. Available online at: http://www.natureserve.org/explorer. [Accessed 07/01/2014].

Rana Resources. 2013. Mark Jennings. Personal Communication. September 18, 2013.

Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society (CNPS), Sacramento, CA.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*. 3rd edition. Boston: Houghton Mifflin Co.

Swainson's Hawk Technical Advisory Committee. 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley.*

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station).

USDA, NRCS. 1993. *Soil Survey of Sacramento County, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station);

USDA, NRCS. 2014. *National Hydric Soils List by State*. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed [02/04/2015].

USDA, NRCS. 2015. Web Soil Survey. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [01/15/2015].

U.S. Fish and Wildlife Service (USFWS). 1980. *Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45:52803–52807*.

USFWS. 2015. *Federal Endangered and Threatened Species that may be affected by Projects in the Folsom SE, Clarksville, and Latrobe 7.5-minute series Quadrangles*. Sacramento, CA. [Accessed 02/06/2015].

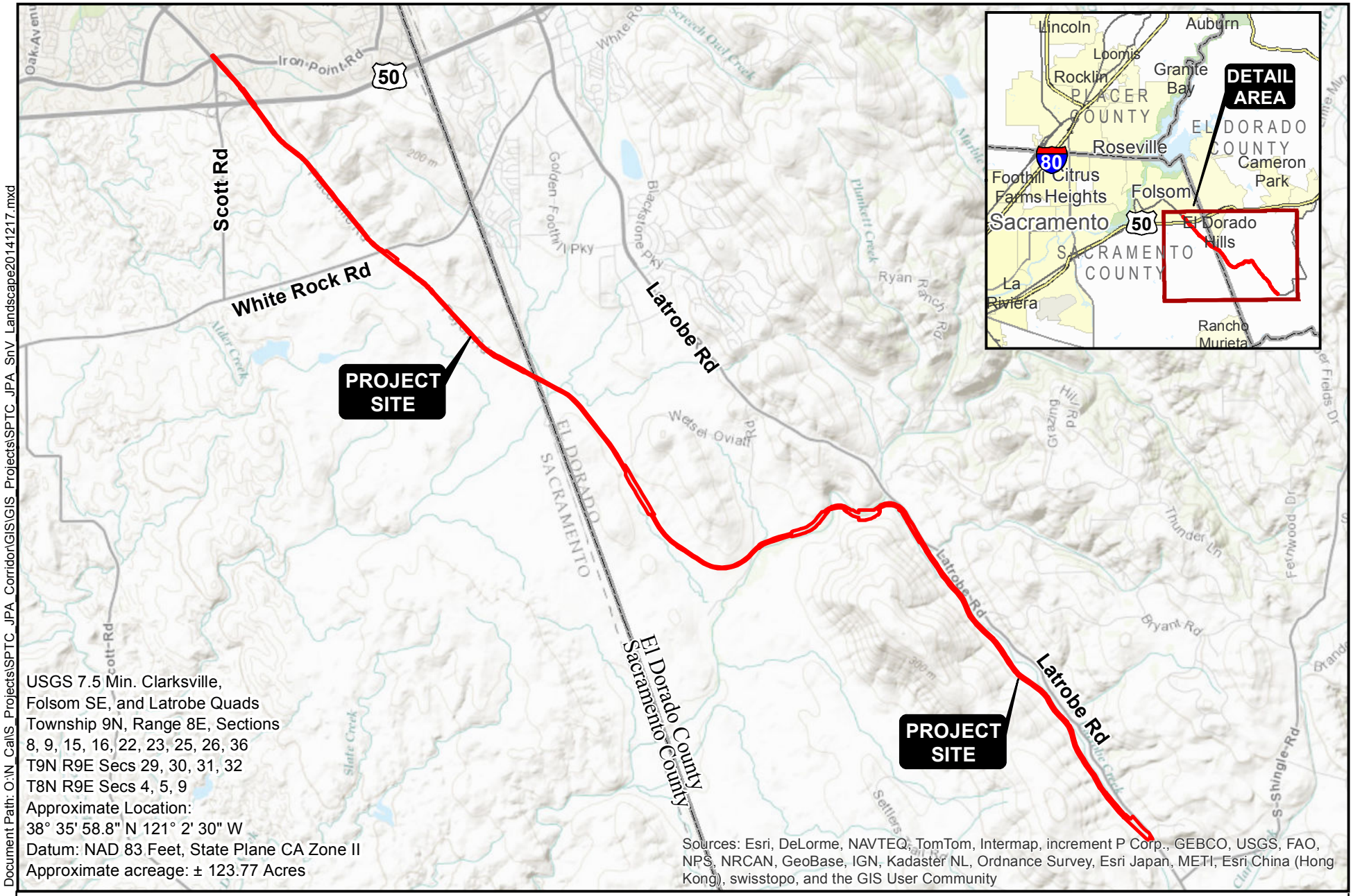
U.S. Geological Survey (USGS). 1953 (Photorevised 1980). *Clarksville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

USGS. 1959a (Photorevised 1980). *Folsom, California*. 15 -minute series topographic quadrangle. U.S. Department of the Interior.

USGS. 1959b (Photorevised 1980). *Folsom SE, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Watson, Jeff. 2010. *The Golden Eagle*. 2nd Edition. London: A&C Black Publishers.

Zeiner, D.C. *et al*. 1990. *California's Wildlife: California Wildlife Habitat Relationships*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Game. Available online at: http://www.dfg.ca.gov/whdab/html/cawildlife.html. Accessed [02/04/2015].




Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_JPA_SnV_Landscape20141217.mxd

# SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE



N

0 1 2
Miles

Drawn By: MUB
Date: 12/17/2014

FIGURE 1

SPTC-JPA NATURE TRAIL

Document Name: SPTC_JPA_SnV_Landscape20141217 : 12/17/2014 10:03:25 PM

**SOIL TYPE - Sacramento County**

- 107 - ARGONAUT-AUBURN COMPLEX, 3 TO 8 PERCENT SLOPES
- 110 - AUBURN-ARGONAUT-ROCK OUTCROP COMPLEX, 8 TO 30 PERCENT SLOPES
- 237 - WHITEROCK LOAM, 3 TO 30 PERCENT SLOPES

107

237

107

110

0 0.5 1
Miles

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

PgB

AmD

AmD

WhE

AxD

AyF

PrD

PrD

PrD

PgB

AwD

PrD

AxD

AxD

AwD

TaD

AmD

AxD

AwD

AxD

AwD

AwD

AxD

**SOIL TYPE - El Dorado**

- AmD - ARGONAUT VERY ROCKY LOAM, 3 TO 30 PERCENT SLOPES
- AyF - AUBURN EXTREMELY ROCKY SILT LOAM, 3 TO 70 PERCENT SLOPES
- AwD - AUBURN SILT LOAM, 2 TO 30 PERCENT SLOPES
- AxD - AUBURN VERY ROCKY SILT LOAM, 2 TO 30 PERCENT SLOPES
- PgB - PERKINS GRAVELLY LOAM, MODERATELY DEEP VARIANT, 2 TO 5 PERCENT SLOPES
- PrD - PLACER
- WhE - WHITEROCK GRAVELLY SILT LOAM, 3 TO 50 PERCENT SLOPES
- TaD - TAILINGS

0 1 2
Miles

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_JPA_Soills_11x17_20141217.mxd

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE



# SOILS
# SPTC-JPA NATURE TRAIL

USDA, Soil Conservation Service, digital soil data derived from SSURGO data, Sacramento and El Dorado County CA, 2010

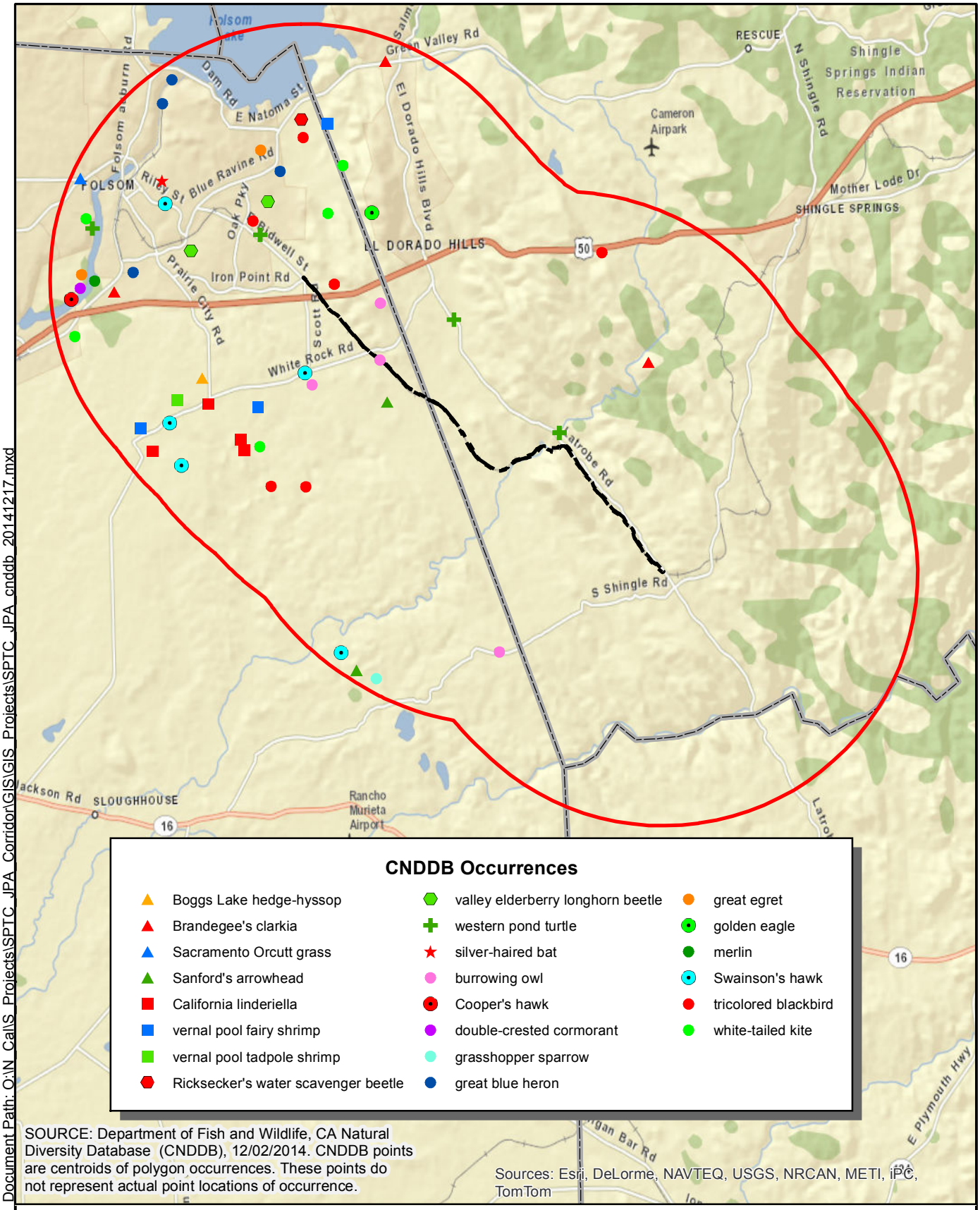
N

Drawn By: MUB
Date: 12/17/2014

# FIGURE 2



Document Name: SPTC_JPA_Soills_11x17_20141217




SOURCE: Department of Fish and Wildlife, CA Natural Diversity Database (CNDDB), 12/02/2014. CNDDB points are centroids of polygon occurrences. These points do not represent actual point locations of occurrence.

Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom

Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_JPA_cnddb_20141217.mxd

# CNDDB

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE


N

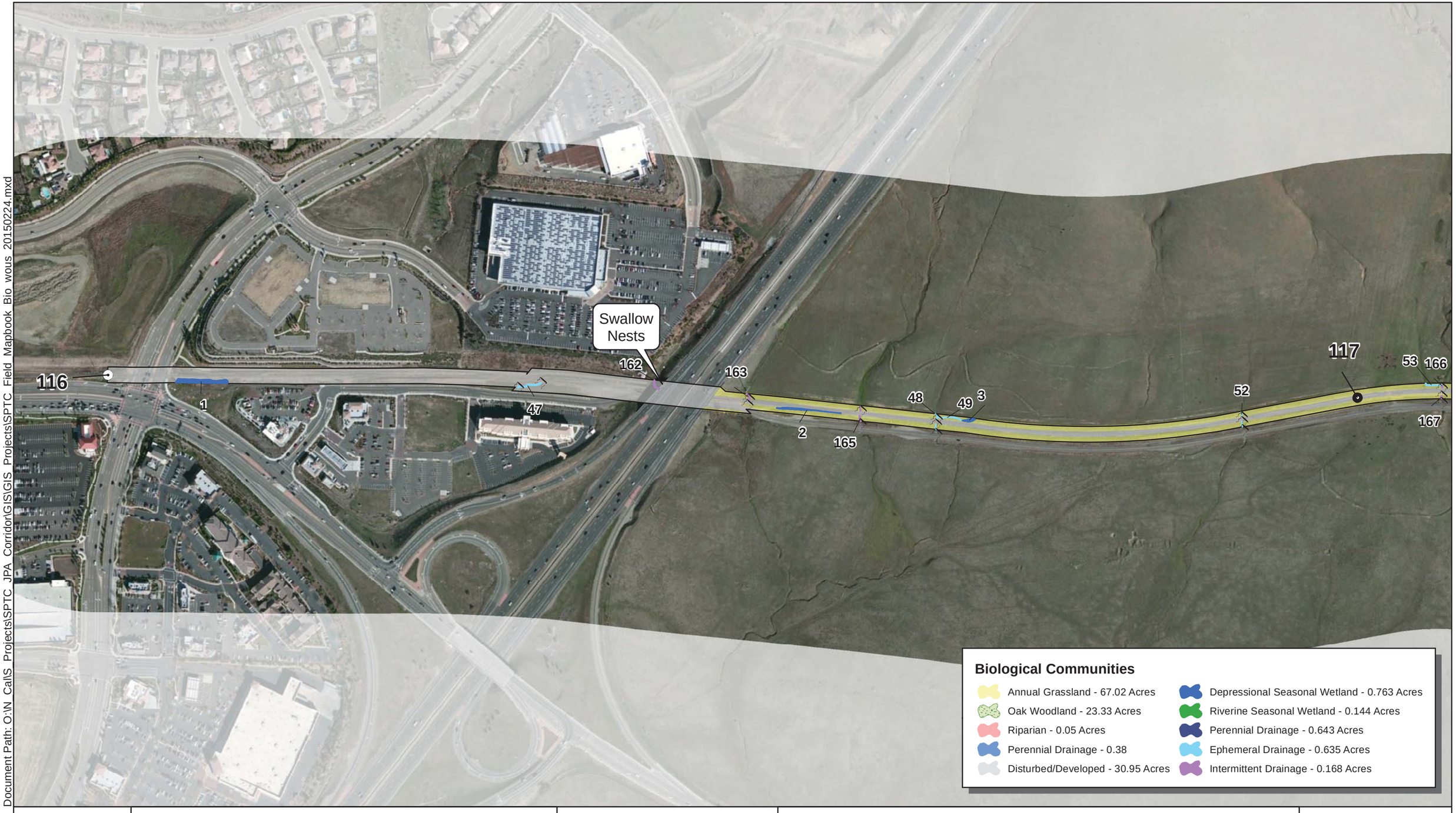
0 1 2
SCALE IN MILES

Drawn By: MUB
Date: 12/17/2014

FIGURE 3

SPTC-JPA NATURE TRAIL

Document Name: SPTC_JPA_cnddb_20141217 : 12/17/2014 9:42:01 PM




0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

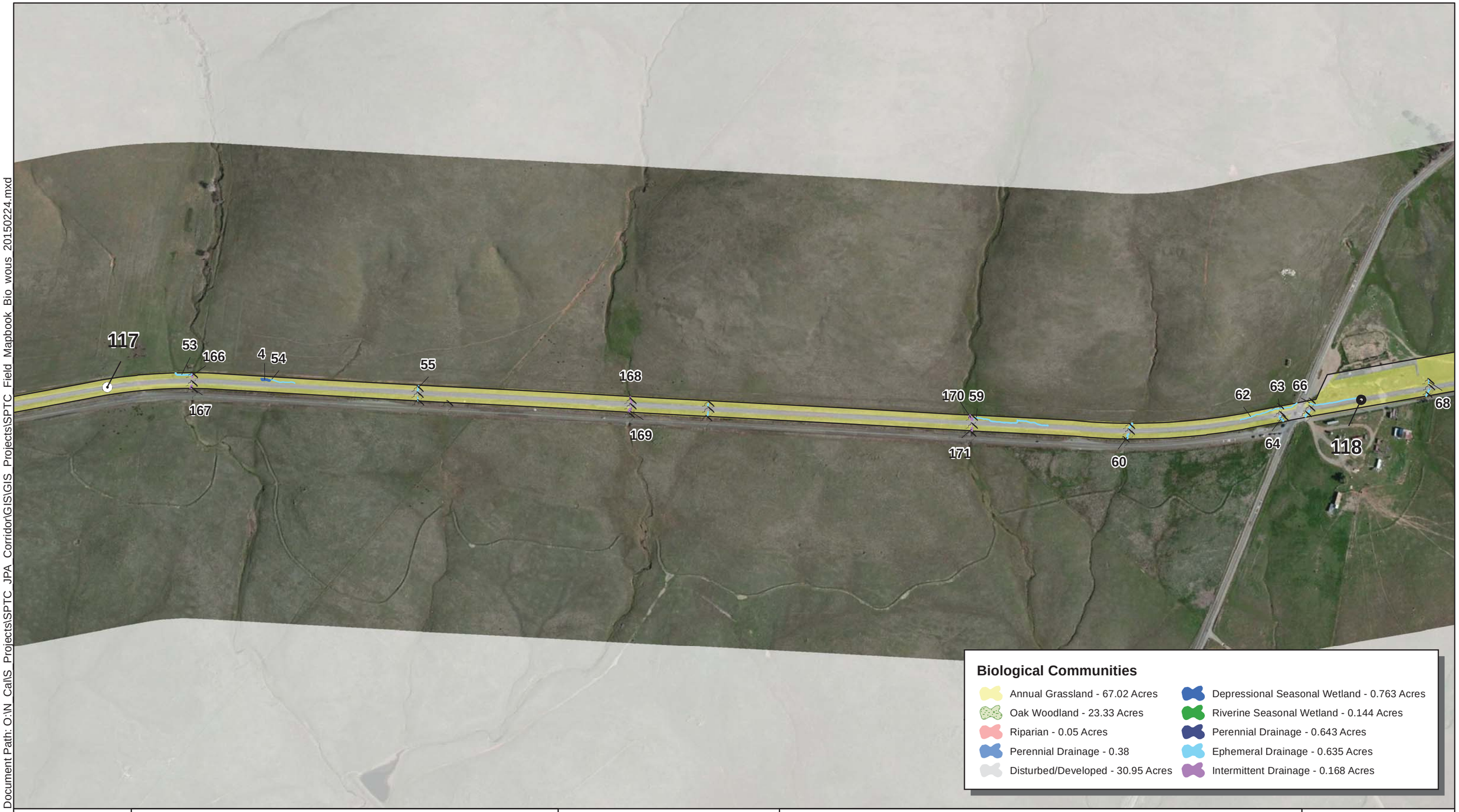
## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 116**

Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM




**Biological Communities**

- Annual Grassland - 67.02 Acres
- Oak Woodland - 23.33 Acres
- Riparian - 0.05 Acres
- Perennial Drainage - 0.38
- Disturbed/Developed - 30.95 Acres
- Depressional Seasonal Wetland - 0.763 Acres
- Riverine Seasonal Wetland - 0.144 Acres
- Perennial Drainage - 0.643 Acres
- Ephemeral Drainage - 0.635 Acres
- Intermittent Drainage - 0.168 Acres

N

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

**Other Features**

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 117**


N

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

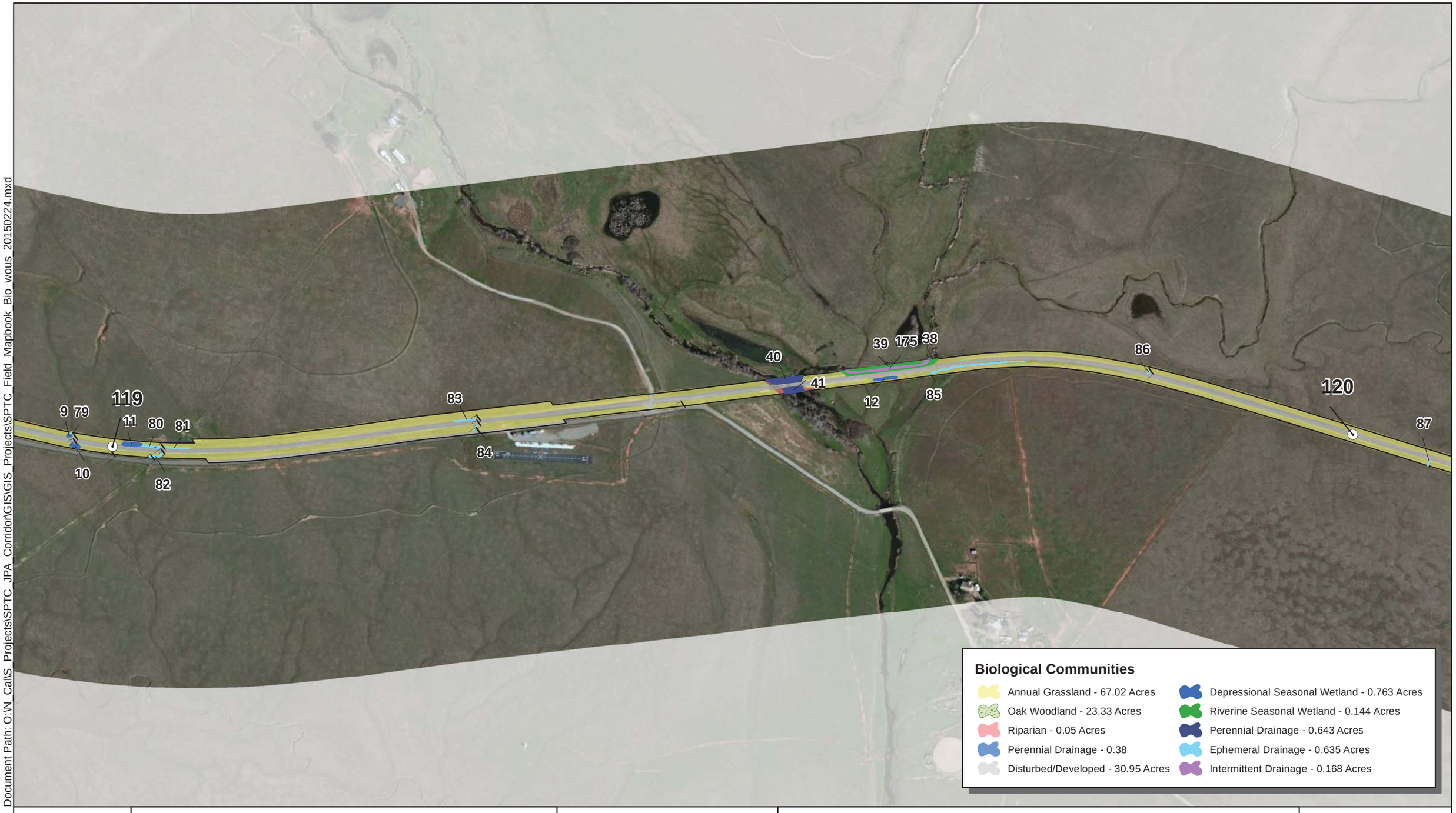
## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 118**

Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM




0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 119**

Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM


**Biological Communities**

- Annual Grassland - 67.02 Acres
- Oak Woodland - 23.33 Acres
- Riparian - 0.05 Acres
- Perennial Drainage - 0.38
- Disturbed/Developed - 30.95 Acres
- Depressional Seasonal Wetland - 0.763 Acres
- Riverine Seasonal Wetland - 0.144 Acres
- Perennial Drainage - 0.643 Acres
- Ephemeral Drainage - 0.635 Acres
- Intermittent Drainage - 0.168 Acres

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

**Other Features**

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 120**

Document Path: O:\N_Calls_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM


Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

N

0 500 1,000

Feet

1 inch = 375 feet

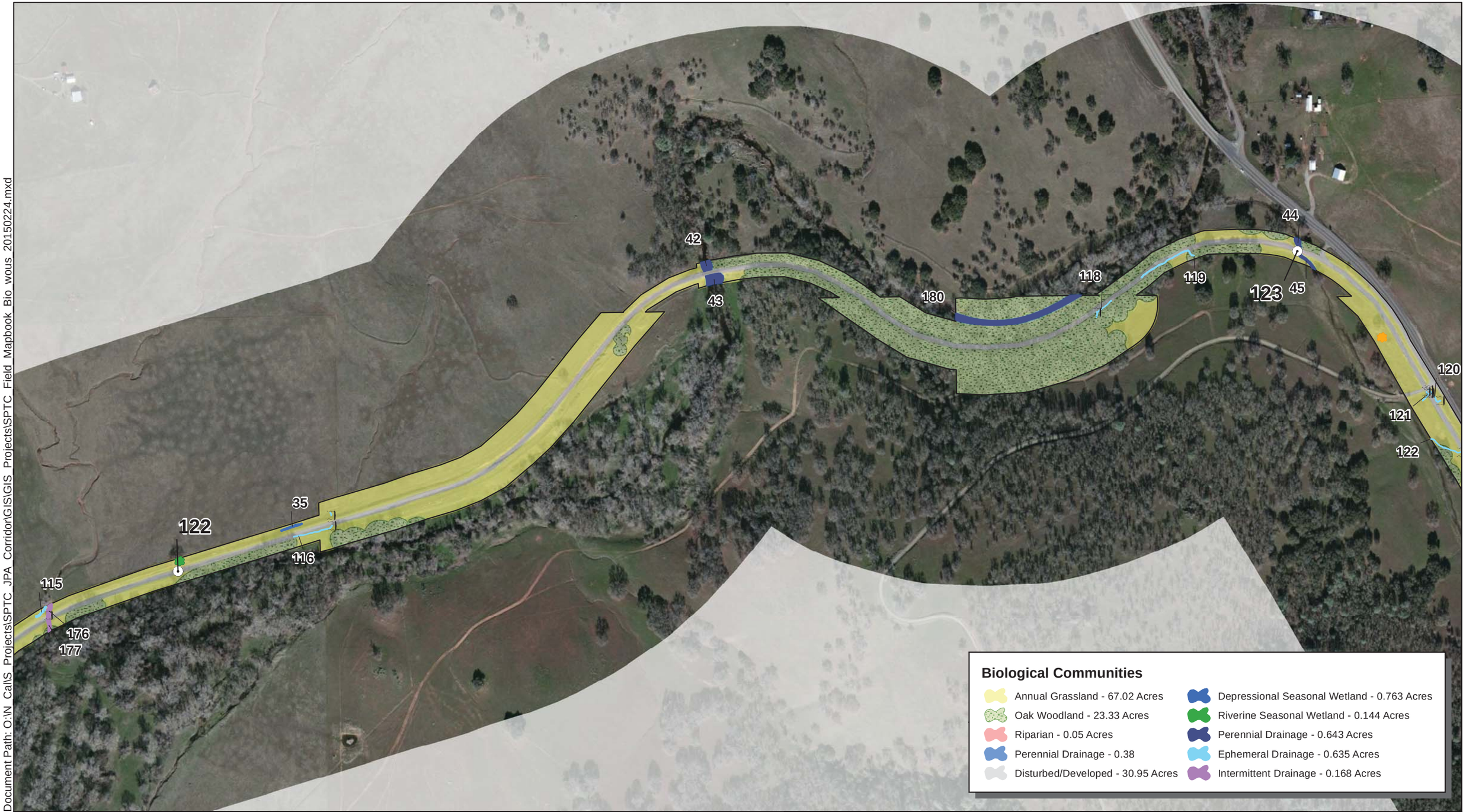
# SPTC Biological Communities

## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 121**

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM




N

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 122**

Document Path: O:\N_Calls_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM

**Biological Communities**

- Annual Grassland - 67.02 Acres
- Oak Woodland - 23.33 Acres
- Riparian - 0.05 Acres
- Perennial Drainage - 0.38
- Disturbed/Developed - 30.95 Acres
- Depressional Seasonal Wetland - 0.763 Acres
- Riverine Seasonal Wetland - 0.144 Acres
- Perennial Drainage - 0.643 Acres
- Ephemeral Drainage - 0.635 Acres
- Intermittent Drainage - 0.168 Acres

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

**Other Features**

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 123**

Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM


Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 124**

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM


Document Path: O:\N_Cal\S_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

0 500 1,000

Feet

1 inch = 375 feet

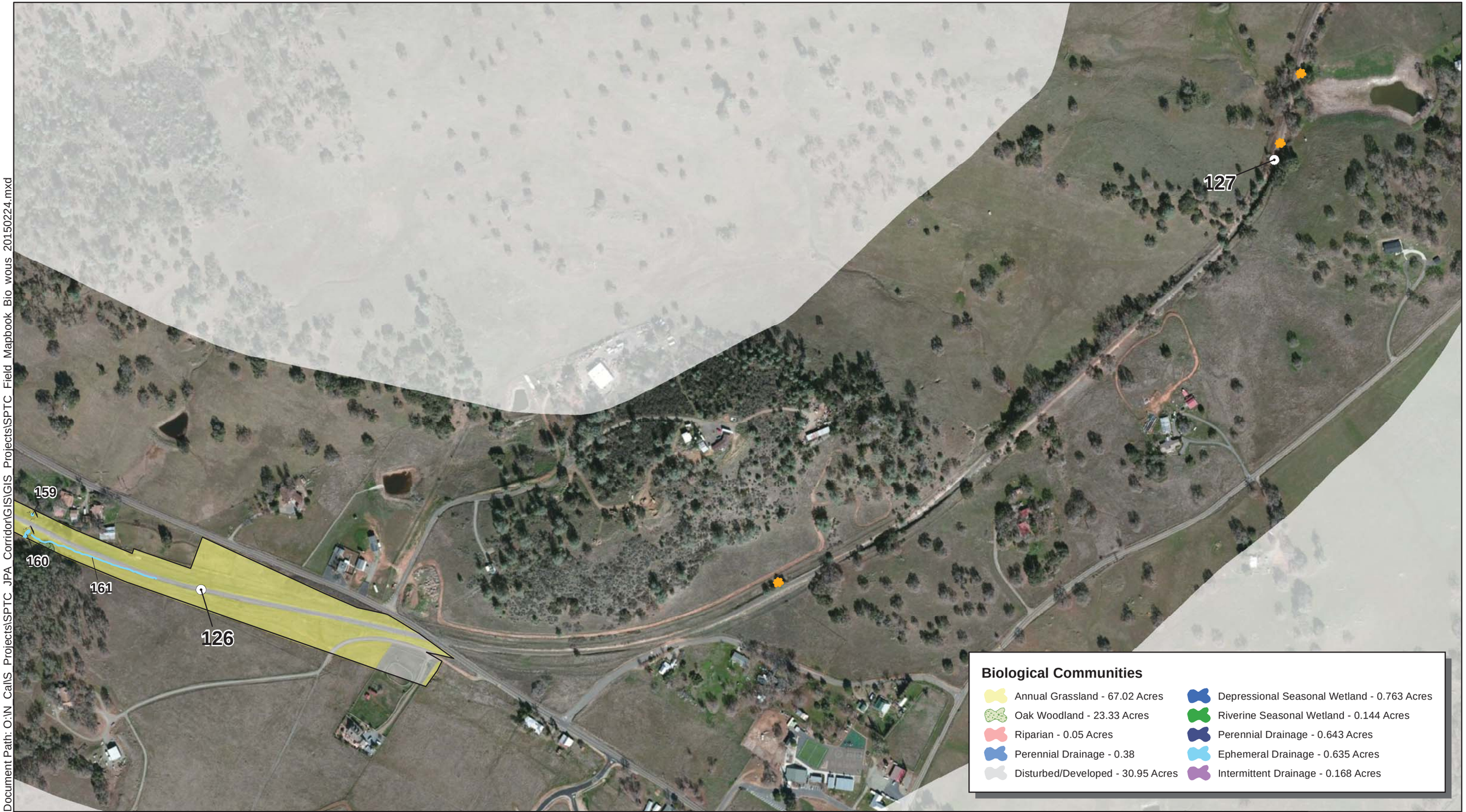
# SPTC Biological Communities

## Other Features

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 125**

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM




**Biological Communities**

- Annual Grassland - 67.02 Acres
- Oak Woodland - 23.33 Acres
- Riparian - 0.05 Acres
- Perennial Drainage - 0.38
- Disturbed/Developed - 30.95 Acres
- Depressional Seasonal Wetland - 0.763 Acres
- Riverine Seasonal Wetland - 0.144 Acres
- Perennial Drainage - 0.643 Acres
- Ephemeral Drainage - 0.635 Acres
- Intermittent Drainage - 0.168 Acres

N

0 500 1,000

Feet

1 inch = 375 feet

# SPTC Biological Communities

**Other Features**

- Elderberry
- Burrowing Owl Nest
- Culvert
- Mile Marker
- Study Area

**MILE: 126**

Document Path: O:\N_CalS_Projects\SPTC_JPA_Corridor\GIS\GIS_Projects\SPTC_Field_Mapbook_Bio_wous_20150224.mxd

Document Name: SPTC_Field_Mapbook_Bio_wous_20150224 : 2/27/2015 1:33:40 PM

# Appendix A — CDFW, CNPS, and USFWS Queries

# CDFW CNDDB: *Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, Latrobe, Sloughhouse, Carbondale,* and *Irish Springs* Quadrangles

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

**Query Summary:**
Quad IS (Folsom (3812162) OR Clarksville (3812161) OR Shingle Springs (3812068) OR Buffalo Creek (3812152) OR Folsom SE (3812151) OR Latrobe (3812058) OR Sloughhouse (3812142) OR Carbondale (3812141) OR Irish Hill (3812048))

Print Close

**CNDDB Element Query Results**

| Scientific Name | Common Name | Taxonomic Group | Element Code | Total Occs | Returned Occs | Federal Status | State Status | Global Rank | State Rank | CA Rare Plant Rank | Other Status | Habitats |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Accipiter cooperii | Cooper's hawk | Birds | ABNKC12040 | 103 | 2 | None | None | G5 | S4 | null | CDFW_WL-Watch List \| IUCN_LC-Least Concern | Cismontane woodland \| Riparian forest \| Riparian woodland \| Upper montane coniferous forest |
| Agelaius tricolor | tricolored blackbird | Birds | ABPBXB0020 | 431 | 24 | None | Endangered | G2G3 | S1S2 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| IUCN_EN-Endangered \| NABCI_RWL-Red Watch List \| USFWS_BCC-Birds of Conservation Concern | Freshwater marsh \| Marsh & swamp \| Swamp \| Wetland |
| Allium jepsonii | Jepson's onion | Monocots | PMLIL022V0 | 27 | 2 | None | None | G1 | S1 | 1B.2 | BLM_S-Sensitive \| USFS_S-Sensitive | Cismontane woodland \| Lower montane coniferous forest \| Ultramafic |
| Ambystoma californiense | California tiger salamander | Amphibians | AAAAA01180 | 1113 | 5 | Threatened | Threatened | G2G3 | S2S3 | null | CDFW_SSC-Species of Special Concern \| IUCN_VU-Vulnerable | Cismontane woodland \| Meadow & seep \| Riparian woodland \| Valley & foothill grassland \| Vernal pool \| Wetland |
| Ammodramus savannarum | grasshopper sparrow | Birds | ABPBXA0020 | 16 | 2 | None | None | G5 | S2 | null | CDFW_SSC-Species of Special Concern \| IUCN_LC-Least Concern | Valley & foothill grassland |
| Andrena blennospermatis | Blennosperma vernal pool andrenid bee | Insects | IIHYM35030 | 15 | 2 | None | None | G2 | S2 | null | null | Vernal pool |
| Antrozous pallidus | pallid bat | Mammals | AMACC10010 | 402 | 2 | None | None | G5 | S3 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| IUCN_LC-Least Concern \| USFS_S-Sensitive \| WBWG_H-High Priority | Chaparral \| Coastal scrub \| Desert wash \| Great Basin grassland \| Great Basin scrub \| Mojavean desert scrub \| Riparian woodland \| Sonoran desert scrub \| Upper montane coniferous forest \| Valley & foothill grassland |
| Aquila chrysaetos | golden eagle | Birds | ABNKC22010 | 308 | 1 | None | None | G5 | S3 | null | BLM_S-Sensitive \| CDF_S-Sensitive \| CDFW_FP-Fully Protected \| CDFW_WL-Watch List \| IUCN_LC-Least Concern \| USFWS_BCC-Birds of Conservation Concern | Broadleaved upland forest \| Cismontane woodland \| Coastal prairie \| Great Basin grassland \| Great Basin scrub \| Lower montane coniferous forest \| Pinon & juniper woodlands \| Upper montane coniferous forest \| Valley & foothill grassland |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arctostaphylos myrtifolia | Ione manzanita | Dicots | PDERI04240 | 15 | 6 | Threatened | None | G2 | S2 | 1B.2 | null | Chaparral \| Cismontane woodland \| Ione formation |
| Ardea alba | great egret | Birds | ABNGA04040 | 35 | 3 | None | None | G5 | S4 | null | CDF_S-Sensitive \| IUCN_LC-Least Concern | Brackish marsh \| Estuary \| Freshwater marsh \| Marsh & swamp \| Riparian forest \| Wetland |
| Ardea herodias | great blue heron | Birds | ABNGA04010 | 133 | 6 | None | None | G5 | S4 | null | CDF_S-Sensitive \| IUCN_LC-Least Concern | Brackish marsh \| Estuary \| Freshwater marsh \| Marsh & swamp \| Riparian forest \| Wetland |
| Athene cunicularia | burrowing owl | Birds | ABNSB10010 | 1862 | 11 | None | None | G4 | S3 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| IUCN_LC-Least Concern \| USFWS_BCC-Birds of Conservation Concern | Coastal prairie \| Coastal scrub \| Great Basin grassland \| Great Basin scrub \| Mojavean desert scrub \| Sonoran desert scrub \| Valley & foothill grassland |
| Branchinecta lynchi | vernal pool fairy shrimp | Crustaceans | ICBRA03030 | 750 | 45 | Threatened | None | G3 | S2S3 | null | IUCN_VU-Vulnerable | Valley & foothill grassland \| Vernal pool \| Wetland |
| Branchinecta mesovallensis | midvalley fairy shrimp | Crustaceans | ICBRA03150 | 125 | 12 | None | None | G2 | S2 | null | null | Vernal pool \| Wetland |
| Buteo swainsoni | Swainson's hawk | Birds | ABNKC19070 | 2394 | 23 | None | Threatened | G5 | S3 | null | BLM_S-Sensitive \| IUCN_LC-Least Concern \| USFWS_BCC-Birds of Conservation Concern | Great Basin grassland \| Riparian forest \| Riparian woodland \| Valley & foothill grassland |
| Calystegia stebbinsii | Stebbins' morning-glory | Dicots | PDCON040H0 | 13 | 7 | Endangered | Endangered | G1 | S1 | 1B.1 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral \| Cismontane woodland \| Ultramafic |
| Ceanothus roderickii | Pine Hill ceanothus | Dicots | PDRHA04190 | 8 | 7 | Endangered | Rare | G1 | S1 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral \| Cismontane woodland \| Ultramafic |
| Central Valley Drainage Hardhead/Squawfish Stream | Central Valley Drainage Hardhead/Squawfish Stream | Inland Waters | CARA2443CA | 11 | 1 | None | None | GNR | SNR | null | null | null |
| Chlorogalum grandiflorum | Red Hills soaproot | Monocots | PMLIL0G020 | 82 | 9 | None | None | G3 | S3 | 1B.2 | BLM_S-Sensitive | Chaparral \| Cismontane woodland \| Lower montane coniferous forest \| Ultramafic |
| Clarkia biloba ssp. brandegeeae | Brandegee's clarkia | Dicots | PDONA05053 | 89 | 4 | None | None | G4G5T4 | S4 | 4.2 | BLM_S-Sensitive | Chaparral \| Cismontane woodland \| Lower montane coniferous forest |
| Crocanthemum suffrutescens | Bisbee Peak rush-rose | Dicots | PDCIS020F0 | 31 | 17 | None | None | G2Q | S2 | 3.2 | null | Chaparral \| Ione formation \| Ultramafic |
| Desmocerus californicus dimorphus | valley elderberry longhorn beetle | Insects | IICOL48011 | 216 | 12 | Threatened | None | G3T2 | S2 | null | null | Riparian scrub |
| Downingia pusilla | dwarf downingia | Dicots | PDCAM060C0 | 127 | 2 | None | None | GU | S2 | 2B.2 | null | Valley & foothill grassland \| Vernal pool \| Wetland |
| Dumontia oregonensis | hairy water flea | Crustaceans | ICBRA23010 | 2 | 1 | None | None | G1G3 | S1 | null | null | Vernal pool |
| Elanus leucurus | white-tailed kite | Birds | ABNKC06010 | 158 | 10 | None | None | G5 | S3S4 | null | BLM_S-Sensitive \| CDFW_FP-Fully Protected \| IUCN_LC-Least Concern | Cismontane woodland \| Marsh & swamp \| Riparian woodland \| Valley & foothill grassland \| Wetland |
| | | | | | | | | | | | | Aquatic \| Artificial flowing waters \| Klamath/North coast flowing waters \| |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emys marmorata | western pond turtle | Reptiles | ARAAD02030 | 1137 | 11 | None | None | G3G4 | S3 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| IUCN_VU-Vulnerable \| USFS_S-Sensitive | Klamath/North coast standing waters \| Marsh & swamp \| Sacramento/San Joaquin flowing waters \| Sacramento/San Joaquin standing waters \| South coast flowing waters \| South coast standing waters \| Wetland |
| Eriogonum apricum var. apricum | Ione buckwheat | Dicots | PDPGN080F1 | 6 | 1 | Endangered | Endangered | G2T1 | S1 | 1B.1 | SB_UCBBG-UC Berkeley Botanical Garden | Chaparral \| Ione formation |
| Eriogonum apricum var. prostratum | Irish Hill buckwheat | Dicots | PDPGN080F2 | 2 | 2 | Endangered | Endangered | G2T1 | S1 | 1B.1 | null | Chaparral \| Ione formation |
| Eryngium pinnatisectum | Tuolumne button-celery | Dicots | PDAPI0Z0P0 | 24 | 5 | None | None | G2 | S2 | 1B.2 | null | Cismontane woodland \| Lower montane coniferous forest \| Vernal pool \| Wetland |
| Falco columbarius | merlin | Birds | ABNKD06030 | 34 | 1 | None | None | G5 | S3S4 | null | CDFW_WL-Watch List \| IUCN_LC-Least Concern | Estuary \| Great Basin grassland \| Valley & foothill grassland |
| Fremontodendron decumbens | Pine Hill flannelbush | Dicots | PDSTE03030 | 10 | 7 | Endangered | Rare | G1 | S1 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden \| SB_UCBBG-UC Berkeley Botanical Garden | Chaparral \| Cismontane woodland \| Ultramafic |
| Galium californicum ssp. sierrae | El Dorado bedstraw | Dicots | PDRUB0N0E7 | 16 | 13 | Endangered | Rare | G5T1 | S1 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral \| Cismontane woodland \| Lower montane coniferous forest \| Ultramafic |
| Gratiola heterosepala | Boggs Lake hedge-hyssop | Dicots | PDSCR0R060 | 94 | 5 | None | Endangered | G2 | S2 | 1B.2 | BLM_S-Sensitive | Freshwater marsh \| Marsh & swamp \| Vernal pool \| Wetland |
| Haliaeetus leucocephalus | bald eagle | Birds | ABNKC10010 | 316 | 1 | Delisted | Endangered | G5 | S2 | null | BLM_S-Sensitive \| CDF_S-Sensitive \| CDFW_FP-Fully Protected \| IUCN_LC-Least Concern \| USFS_S-Sensitive \| USFWS_BCC-Birds of Conservation Concern | Lower montane coniferous forest \| Oldgrowth |
| Horkelia parryi | Parry's horkelia | Dicots | PDROS0W0C0 | 36 | 2 | None | None | G2 | S2 | 1B.2 | BLM_S-Sensitive \| USFS_S-Sensitive | Chaparral \| Cismontane woodland \| Ione formation |
| Hydrochara rickseckeri | Ricksecker's water scavenger beetle | Insects | IICOL5V010 | 13 | 2 | None | None | G2? | S2? | null | null | Aquatic \| Sacramento/San Joaquin flowing waters \| Sacramento/San Joaquin standing waters |
| Ione Chaparral | Ione Chaparral | Scrub | CTT37D00CA | 12 | 4 | None | None | G1 | S1.1 | null | null | Chaparral |
| Juncus leiospermus var. ahartii | Ahart's dwarf rush | Monocots | PMJUN011L1 | 13 | 1 | None | None | G2T1 | S1 | 1B.2 | null | Valley & foothill grassland \| Vernal pool \| Wetland |
| Lasionycteris noctivagans | silver-haired bat | Mammals | AMACC02010 | 138 | 2 | None | None | G5 | S3S4 | null | IUCN_LC-Least Concern \| WBWG_M-Medium Priority | Lower montane coniferous forest \| Oldgrowth \| Riparian forest |
| Legenere limosa | legenere | Dicots | PDCAM0C010 | 78 | 11 | None | None | G2 | S2 | 1B.1 | BLM_S-Sensitive | Vernal pool \| Wetland |
| Lepidurus packardi | vernal pool tadpole shrimp | Crustaceans | ICBRA10010 | 285 | 31 | Endangered | None | G3 | S2S3 | null | IUCN_EN-Endangered | Valley & foothill grassland \| Vernal pool \| Wetland |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Linderiella occidentalis | California linderiella | Crustaceans | ICBRA06010 | 416 | 17 | None | None | G2G3 | S2S3 | null | IUCN_NT-Near Threatened | Vernal pool |
| Navarretia myersii ssp. myersii | pincushion navarretia | Dicots | PDPLM0C0X1 | 14 | 5 | None | None | G1T1 | S1 | 1B.1 | null | Vernal pool \| Wetland |
| Northern Hardpan Vernal Pool | Northern Hardpan Vernal Pool | Herbaceous | CTT44110CA | 126 | 30 | None | None | G3 | S3.1 | null | null | Vernal pool \| Wetland |
| Northern Volcanic Mud Flow Vernal Pool | Northern Volcanic Mud Flow Vernal Pool | Herbaceous | CTT44132CA | 7 | 1 | None | None | G1 | S1.1 | null | null | Vernal pool \| Wetland |
| Oncorhynchus mykiss irideus | steelhead - Central Valley DPS | Fish | AFCHA0209K | 31 | 3 | Threatened | None | G5T2Q | S2 | null | AFS_TH-Threatened | Aquatic \| Sacramento/San Joaquin flowing waters |
| Orcuttia tenuis | slender Orcutt grass | Monocots | PMPOA4G050 | 96 | 1 | Threatened | Endangered | G2 | S2 | 1B.1 | SB_UCBBG-UC Berkeley Botanical Garden | Vernal pool \| Wetland |
| Orcuttia viscida | Sacramento Orcutt grass | Monocots | PMPOA4G070 | 12 | 10 | Endangered | Endangered | G1 | S1 | 1B.1 | null | Vernal pool \| Wetland |
| Packera layneae | Layne's ragwort | Dicots | PDAST8H1V0 | 48 | 23 | Threatened | Rare | G2 | S2 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral \| Cismontane woodland \| Ultramafic |
| Pekania pennanti | fisher - West Coast DPS | Mammals | AMAJF01021 | 647 | 1 | Proposed Threatened | Candidate Threatened | G5T2T3Q | S2S3 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| USFS_S-Sensitive | North coast coniferous forest \| Oldgrowth \| Riparian forest |
| Phalacrocorax auritus | double-crested cormorant | Birds | ABNFD01020 | 37 | 1 | None | None | G5 | S4 | null | CDFW_WL-Watch List \| IUCN_LC-Least Concern | Riparian forest \| Riparian scrub \| Riparian woodland |
| Phrynosoma blainvillii | coast horned lizard | Reptiles | ARACF12100 | 727 | 4 | None | None | G3G4 | S3S4 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| IUCN_LC-Least Concern | Chaparral \| Cismontane woodland \| Coastal bluff scrub \| Coastal scrub \| Desert wash \| Pinon & juniper woodlands \| Riparian scrub \| Riparian woodland \| Valley & foothill grassland |
| Rana draytonii | California red-legged frog | Amphibians | AAABH01022 | 1340 | 1 | Threatened | None | G2G3 | S2S3 | null | CDFW_SSC-Species of Special Concern \| IUCN_VU-Vulnerable | Aquatic \| Artificial flowing waters \| Artificial standing waters \| Freshwater marsh \| Marsh & swamp \| Riparian forest \| Riparian scrub \| Riparian woodland \| Sacramento/San Joaquin flowing waters \| Sacramento/San Joaquin standing waters \| South coast flowing waters \| South coast standing waters \| Wetland |
| Riparia riparia | bank swallow | Birds | ABPAU08010 | 296 | 3 | None | Threatened | G5 | S2 | null | BLM_S-Sensitive \| IUCN_LC-Least Concern | Riparian scrub \| Riparian woodland |
| Sagittaria sanfordii | Sanford's arrowhead | Monocots | PMALI040Q0 | 93 | 8 | None | None | G3 | S3 | 1B.2 | BLM_S-Sensitive | Marsh & swamp \| Wetland |
| Spea hammondii | western spadefoot | Amphibians | AAABF02020 | 426 | 8 | None | None | G3 | S3 | null | BLM_S-Sensitive \| CDFW_SSC-Species of Special Concern \| IUCN_NT-Near Threatened | Cismontane woodland \| Coastal scrub \| Valley & foothill grassland \| Vernal pool \| Wetland |
| | | | | | | | | | | | | Alkali marsh \| Alkali playa \| Alpine \| Alpine dwarf scrub \| |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Taxidea taxus | American badger | Mammals | AMAJF04010 | 476 | 1 | None | None | G5 | S3 | null | CDFW_SSC-Species of Special Concern \| IUCN_LC-Least Concern | Bog & fen \| Brackish marsh \| Broadleaved upland forest \| Chaparral \| Chenopod scrub \| Cismontane woodland \| Closed-cone coniferous forest \| Coastal bluff scrub \| Coastal dunes \| Coastal prairie \| Coastal scrub \| Desert dunes \| Desert wash \| Freshwater marsh \| Great Basin grassland \| Great Basin scrub \| Interior dunes \| Ione formation \| Joshua tree woodland \| Limestone \| Lower montane coniferous forest \| Marsh & swamp \| Meadow & seep \| Mojavean desert scrub \| Montane dwarf scrub \| North coast coniferous forest \| Oldgrowth \| Pavement plain \| Redwood \| Riparian forest \| Riparian scrub \| Riparian woodland \| Salt marsh \| Sonoran desert scrub \| Sonoran thorn woodland \| Ultramafic \| Upper montane coniferous forest \| Upper Sonoran scrub \| Valley & foothill grassland |
| Thamnophis gigas | giant garter snake | Reptiles | ARADB36150 | 345 | 1 | Threatened | Threatened | G2 | S2 | null | IUCN_VU-Vulnerable | Marsh & swamp \| Riparian scrub \| Wetland |
| Valley Needlegrass Grassland | Valley Needlegrass Grassland | Herbaceous | CTT42110CA | 45 | 1 | None | None | G3 | S3.1 | null | null | Valley & foothill grassland |
| Wyethia reticulata | El Dorado County mule ears | Dicots | PDAST9X0D0 | 25 | 21 | None | None | G2 | S2 | 1B.2 | BLM_S-Sensitive \| SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral \| Cismontane woodland \| Lower montane coniferous forest \| Ultramafic |

# CNPS Inventory of Rare and Endangered: *Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, Latrobe, Sloughhouse, Carbondale,* and *Irish Springs* Quadrangles

CNPS California Native Plant Rare and Endangered Plant Inventory

# Plant List

**29** matches found. *Click on scientific name for details*

**Search Criteria**

Found in 9 Quads around 38121E1

| Scientific Name | Common Name | Family | Lifeform | Rare Plant Rank | State Rank | Global Rank |
|---|---|---|---|---|---|---|
| Allium jepsonii | Jepson's onion | Alliaceae | perennial bulbiferous herb | 1B.2 | S1 | G1 |
| Arctostaphylos myrtifolia | Ione manzanita | Ericaceae | perennial evergreen shrub | 1B.2 | S2 | G2 |
| Bryum chryseum | brassy bryum | Bryaceae | moss | 4.3 | S3 | G5 |
| Calandrinia breweri | Brewer's calandrinia | Montiaceae | annual herb | 4.2 | S34 | G4 |
| Calystegia stebbinsii | Stebbins' morning-glory | Convolvulaceae | perennial rhizomatous herb | 1B.1 | S1 | G1 |
| Ceanothus fresnensis | Fresno ceanothus | Rhamnaceae | perennial evergreen shrub | 4.3 | S4 | G4 |
| Ceanothus roderickii | Pine Hill ceanothus | Rhamnaceae | perennial evergreen shrub | 1B.1 | S1 | G1 |
| Chlorogalum grandiflorum | Red Hills soaproot | Agavaceae | perennial bulbiferous herb | 1B.2 | S3 | G3 |
| Clarkia biloba ssp. brandegeeae | Brandegee's clarkia | Onagraceae | annual herb | 4.2 | S4 | G4G5T4 |
| Crocanthemum suffrutescens | Bisbee Peak rush-rose | Cistaceae | perennial evergreen shrub | 3.2 | S2 | G2Q |
| Downingia pusilla | dwarf downingia | Campanulaceae | annual herb | 2B.2 | S2 | GU |
| Erigeron miser | starved daisy | Asteraceae | perennial herb | 1B.3 | S2 | G2 |
| Eriogonum apricum var. apricum | Ione buckwheat | Polygonaceae | perennial herb | 1B.1 | S1 | G2T1 |
| Eriogonum apricum var. prostratum | Irish Hill buckwheat | Polygonaceae | perennial herb | 1B.1 | S1 | G2T1 |
| Eriophyllum jepsonii | Jepson's woolly sunflower | Asteraceae | perennial herb | 4.3 | S3 | G3 |
| Eryngium pinnatisectum | Tuolumne button-celery | Apiaceae | annual / perennial herb | 1B.2 | S2 | G2 |
| Fremontodendron decumbens | Pine Hill flannelbush | Malvaceae | perennial evergreen shrub | 1B.2 | S1 | G1 |
| Galium californicum ssp. sierrae | El Dorado bedstraw | Rubiaceae | perennial herb | 1B.2 | S1 | G5T1 |
| Gratiola heterosepala | Boggs Lake hedge-hyssop | Plantaginaceae | annual herb | 1B.2 | S2 | G2 |
| Horkelia parryi | Parry's horkelia | Rosaceae | perennial herb | 1B.2 | S2 | G2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Juncus leiospermus var. ahartii | Ahart's dwarf rush | Juncaceae | annual herb | 1B.2 | S1 | G2T1 |
| Legenere limosa | legenere | Campanulaceae | annual herb | 1B.1 | S2 | G2 |
| Navarretia myersii ssp. myersii | pincushion navarretia | Polemoniaceae | annual herb | 1B.1 | S1 | G1T1 |
| Orcuttia tenuis | slender Orcutt grass | Poaceae | annual herb | 1B.1 | S2 | G2 |
| Orcuttia viscida | Sacramento Orcutt grass | Poaceae | annual herb | 1B.1 | S1 | G1 |
| Packera layneae | Layne's ragwort | Asteraceae | perennial herb | 1B.2 | S2 | G2 |
| Sagittaria sanfordii | Sanford's arrowhead | Alismataceae | perennial rhizomatous herb | 1B.2 | S3 | G3 |
| Trichostema rubisepalum | Hernandez bluecurls | Lamiaceae | annual herb | 4.3 | S4 | G4 |
| Wyethia reticulata | El Dorado County mule ears | Asteraceae | perennial herb | 1B.2 | S2 | G2 |

**Suggested Citation**

CNPS, Rare Plant Program. 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 06 February 2015].

**Search the Inventory**
Simple Search
Advanced Search
Glossary

**Information**
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

**Contributors**
The Calflora Database
The California Lichen Society

# USFWS List for *Federal Endangered and Threatened Species that may be affected by Projects in the Folsom SE, Clarksville, and Latrobe 7.5-minute series Quadrangles*

# U.S. Fish & Wildlife Service

# Sacramento Fish & Wildlife Office

## Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 150206123014

Current as of: February 6, 2015

---

## Quad Lists

### Listed Species

#### Invertebrates

*Branchinecta conservatio*
Conservancy fairy shrimp (E)

*Branchinecta lynchi*
vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*
valley elderberry longhorn beetle (T)

*Lepidurus packardi*
vernal pool tadpole shrimp (E)

#### Fish

*Hypomesus transpacificus*
delta smelt (T)

*Oncorhynchus mykiss*
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

*Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

#### Amphibians

*Ambystoma californiense*
California tiger salamander, central population (T)

*Rana draytonii*
California red-legged frog (T)

#### Reptiles

*Thamnophis gigas*
giant garter snake (T)

#### Plants

*Calystegia stebbinsii*
Stebbins's morning-glory (E)

*Ceanothus roderickii*
Pine Hill ceanothus (E)

*Fremontodendron californicum ssp. decumbens*
Pine Hill flannelbush (E)

*Galium californicum ssp. sierrae*
El Dorado bedstraw (E)

*Orcuttia viscida*
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

*Senecio layneae*
Layne's butterweed (=ragwort) (T)

Quads Containing Listed, Proposed or Candidate Species:

CLARKSVILLE (511A)

FOLSOM (511B)

FOLSOM SE (511D)

---

# County Lists

## El Dorado County

### Listed Species

#### Invertebrates

*Branchinecta conservatio*
Conservancy fairy shrimp (E)

*Branchinecta lynchi*
vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*
valley elderberry longhorn beetle (T)

*Lepidurus packardi*
vernal pool tadpole shrimp (E)

#### Fish

*Hypomesus transpacificus*
delta smelt (T)

*Oncorhynchus (=Salmo) clarki henshawi*
Lahontan cutthroat trout (T)

*Oncorhynchus mykiss*
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

*Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

#### Amphibians

*Ambystoma californiense*
California tiger salamander, central population (T)

*Rana draytonii*
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

*Rana sierrae*
Mountain yellow legged frog (PX)

### Reptiles

*Thamnophis gigas*
giant garter snake (T)

### Birds

*Coccyzus americanus occidentalis*
Western yellow-billed cuckoo (T)

### Plants

*Calystegia stebbinsii*
Stebbins's morning-glory (E)

*Ceanothus roderickii*
Pine Hill ceanothus (E)

*Fremontodendron californicum ssp. decumbens*
Pine Hill flannelbush (E)

*Galium californicum ssp. sierrae*
El Dorado bedstraw (E)

*Orcuttia viscida*
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

*Senecio layneae*
Layne's butterweed (=ragwort) (T)

## Candidate Species

### Amphibians

*Bufo canorus*
Yosemite toad (C)

*Rana muscosa*
mountain yellow-legged frog (C)

### Mammals

*Martes pennanti*
fisher (C)

### Plants

*Rorippa subumbellata*
Tahoe yellow-cress (C)

# Sacramento County

## Listed Species

### Invertebrates

*Apodemia mormo langei*

Lange's metalmark butterfly (E)

*Branchinecta conservatio*
Conservancy fairy shrimp (E)

*Branchinecta lynchi*
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)

*Elaphrus viridis*
delta green ground beetle (T)

*Incisalia mossii bayensis*
San Bruno elfin butterfly (E)

*Lepidurus packardi*
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

## Fish

*Acipenser medirostris*
green sturgeon (T) (NMFS)

*Hypomesus transpacificus*
Critical habitat, delta smelt (X)
delta smelt (T)

*Oncorhynchus mykiss*
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

*Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

## Amphibians

*Ambystoma californiense*
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)

*Rana draytonii*
California red-legged frog (T)

## Reptiles

*Thamnophis gigas*

giant garter snake (T)

## Birds

*Charadrius alexandrinus nivosus*
western snowy plover (T)

*Coccyzus americanus occidentalis*
Western yellow-billed cuckoo (T)

*Rallus longirostris obsoletus*
California clapper rail (E)

*Sternula antillarum (=Sterna, =albifrons) browni*
California least tern (E)

*Vireo bellii pusillus*
Least Bell's vireo (E)

## Mammals

*Reithrodontomys raviventris*
salt marsh harvest mouse (E)

*Sylvilagus bachmani riparius*
riparian brush rabbit (E)

*Vulpes macrotis mutica*
San Joaquin kit fox (E)

## Plants

*Arctostaphylos myrtifolia*
Ione manzanita (T)

*Calystegia stebbinsii*
Stebbins's morning-glory (E)

*Castilleja campestris ssp. succulenta*
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)

*Ceanothus roderickii*
Pine Hill ceanothus (E)

*Cordylanthus mollis ssp. mollis*
soft bird's-beak (E)

*Cordylanthus palmatus*
palmate-bracted bird's-beak (E)

*Eriogonum apricum var. apricum*
Ione buckwheat (E)

*Eriogonum apricum var. prostratum*
Irish Hill buckwheat (E)

*Erysimum capitatum ssp. angustatum*
Contra Costa wallflower (E)
Critical Habitat, Contra Costa wallflower (X)

*Fremontodendron californicum ssp. decumbens*
Pine Hill flannelbush (E)

*Galium californicum ssp. sierrae*
El Dorado bedstraw (E)

*Lasthenia conjugens*
Contra Costa goldfields (E)

*Neostapfia colusana*
Colusa grass (T)

*Oenothera deltoides ssp. howellii*
Antioch Dunes evening-primrose (E)
Critical habitat, Antioch Dunes evening-primrose (X)

*Orcuttia tenuis*
Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)

*Orcuttia viscida*
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

*Senecio layneae*
Layne's butterweed (=ragwort) (T)

*Sidalcea keckii*
Keck's checker-mallow (=checkerbloom) (E)

## Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
*Critical Habitat* - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

## Important Information About Your Species List

## How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

## Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

## Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

## Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

## Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species

that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

## Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

## Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

## Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

## Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 07, 2015.

# Appendix B — Plants and Wildlife Observed within the Study Area

# Appendix B

Plants and Wildlife Observed within the SPTC-JPA Nature Trail Study Area

| Scientific Name | Common Name |
|---|---|
| **Mammals** | |
| *Lepus californicus* | Black-tailed jackrabbit |
| *Spermophilus beecheyi* | California ground squirrel |
| **Birds** | |
| *Agelaius phoeniceus* | Red-winged blackbird |
| *Aphelocoma californica* | Western scrub jay |
| *Athene cunicularia* | Burrowing owl |
| *Baeolophus inornatus* | Oak titmouse |
| *Buteo jamaicensis* | Red-tailed hawk |
| *Carpodacus mexicanus* | House finch |
| *Cathartes aura* | Turkey vulture |
| *Charadrius vociferous* | Killdeer |
| *Corvus brachyrhyncos* | American crow |
| *Euphagus cyanocephalus* | Brewer's blackbird |
| *Falco sparverius* | American kestrel |
| *Melanerpes formicivorus* | Acorn woodpecker |
| *Mimus polyglottos* | Northern mockingbird |
| *Petrochelidon pyrrhonota* | Cliff swallow nest |
| *Sayornis nigricans* | Black phoebe |
| *Sturnella neglecta* | Western meadowlark |
| *Turdus migratorius* | American robin |
| *Tyrannus verticalis* | Western kingbird |
| *Zenaida macroura* | Mourning dove |
| **Amphbians** | |
| *Pseudacris regilla* | Northern Pacific treefrog |
| **Reptiles** | |
| *Sceloporus occidentalis* | Western fence lizard |

# Appendix C — Regionally Occurring Listed and Special-Status Species

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| **Plants** | | | | |
| Ahart's dwarf rush<br>*Juncus leiospermus* var. *ahartii* | --; --; --; 1B | Annual herb found in mesic areas in valley and foothill grassland from 30 to 229 meters. | Blooming period: March-May. | **Low**; the disturbed nonnative annual grassland within the Study Area provides habitat for this species. |
| Bisbee Peak rush-rose<br>*Crocanthemum suffrutescens* | --; --; --; 3 | Perennial evergreen shrub found often on gabbroic or ione soils, often in burned or disturbed areas and chaparral from 75 to 670 meters. | Blooming period: April-August. | **None**; the Study Area does not provide habitat or the soils required for this species. |
| Boggs Lake hedge-hyssop<br>*Gratiola heterosepala* | --; CE; --; 1B | Annual herb found on clay soils in vernal pools and along the margins of marshes and swamps from 10 to 2,375 meters.<br><br>One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015). | Blooming period: April-August. | **None**; the Study Area does not provide habitat or the soils required for this species. |
| Brandegee's clarkia<br>*Clarkia biloba* ssp. *biloba* | --; --; --; 4 | Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters.<br><br>One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015). | Blooming period: May-July. | **High**; the oak woodland provides habitat for this species. |
| Brewer's calandrinia<br>*Calandrinia breweri* | --; --; --; 4 | Annual herb found on sandy or loamy, disturbed sites and burns within chaparral and coastal scrub from 10 to 1,220 meters. | Blooming period: March-June. | **None**; the Study Area does not provide habitat for this species. |
| Dwarf downingia<br>*Downingia pusilla* | --; --; --; 2 | Annual herb found in mesic valley and foothill grassland and vernal pools from 1 to 445 meters. | Blooming period: March-May. | **Low**; the disturbed nonnative annual grassland within the Study Area provides habitat for this species. |
| El Dorado bedstraw<br>*Galium californicum* ssp. *sierrae* | FE; CR; --; 1B | Perennial herb found on gabbroic soils within chaparral, cismontane woodland, and lower coniferous forest from 100 to 585 meters. | Blooming period: May-June. | **None**; the Study Area does not provide the soils required for this species. |
| El Dorado mule ears<br>*Wyethia reticulata* | --; -- ;--; 1B | Perennial herb found on clay or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 185 to 630 meters. | Blooming period: April-August. | **None**; the Study Area does not provide the soils required for this species. |
| Fresno ceanothus<br>*Ceanothus fresnensis* | --; --; --; 4 | Perennial evergreen shrub found in openings of cismontane woodland and lower montane coniferous forest from 900 to 2,103 meters. | Blooming period: May-July. | **None**; the Study Area occurs outside of the known elevation range for this species. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Hernandez bluecurls *Trichostema rubisepalum* | --; --; --; 4 | Annual herb found on volcanic or serpentinite, gravelly substrate within broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools from 300 to 1,435 meters. | Blooming period: June-August. | **None**; the Study Area occurs outside of the known elevation range for this species. |
| Ione buckwheat *Eriogonum apricum* var. *apricum* | --; --; --; 1B | Perennial herb found occasionally in openings or on Ione soil in chaparral from 60 to 145 meters. | Blooming period: July-October. | **None**; the Study Area does not provide habitat for this species. |
| Ione manzanita *Arctostaphylos myrtifolia* | --; --; --; 1B | Perennial evergreen shrub found in acidic, Ione soil, clay, or sandy substrate in chaparral and cismontane woodland from 60 to 580 meters. | Blooming period: November-March. | **None**; the Study Area does not provide the soils required for this species. |
| Irish Hill buckwheat *Eriogonum apricum* var. *prostratum* | FE; CE; --; 1B | Perennial herb found occasionally in openings or on Ione soil in chaparral from 90 to 120 meters. | Blooming period: June-July. | **None**; the Study Area does not provide habitat for this species. |
| Jepson's onion *Allium jepsonii* | --; --; --; 1B | Perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 300 to 1,320 meters. | Blooming period: April-August. | **None**; the Study Area does not provide the soils required and occurs outside of the known elevation range for this species. |
| Jepson's woolly sunflower *Eriophyllum jepsonii* | --; --; --; 4 | Perennial herb sometimes found on serpentinite substrate within chaparral, cismontane woodland, and coastal scrub from 200 to 1,025 meters. | Blooming period: April-June. | **Low**; the oak woodland provides habitat for this species. |
| Layne's butterweed (=ragwort) *Packera layneae* | FT; CR; --; 1B | Perennial herb found on serpentine or gabbroic, rocky soils in cismontane woodland and chaparral from 200 to 1,085 meters. | Blooming period: April-August. | **None**; the Study Area does not provide the soils required for this species. |
| Legenere *Legenere limosa* | --; CT; --; 1B | Annual herb found in vernal pools from 1 to 880 meters. | Blooming period: April-June. | **None**; the Study Area does not provide habitat for this species. |
| Parry's horkelia *Horkelia parryi* | --; --; --; 1B | Perennial herb found on Ione formation in chaparral and cismontane woodland from 80 to 1,070 meters. | Blooming period: April-September. | **None**; the Study Area does not provide habitat for this species. |
| Pincushion navarretia *Navarretia myersii* | --; --; --; 1B | Annual herb found in vernal pools, which are often acidic, from 20 to 330 meters. | Blooming period: April-May. | **None**; the Study Area does not provide habitat for this species. |
| Pine Hill ceanothus *Ceanothus roderickii* | FE; CR; --; 1B | Perennial evergreen shrub found in chaparral or cismontane woodland on serpentine or gabbro soils from 245 to 630 meters. | Blooming period: April-June. | **None**; the Study Area does not provide the soils required for this species. |
| Pine Hill flannelbush *Fremontodendron decumbens* | FE; CR; --; 1B | Chaparral and cismontane woodland on rocky gabbroic or serpentinite soils. | Blooming period: April-July. | **None**; the Study Area does not provide the soils required for this species. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Red Hills soaproot<br>*Chlorogalum grandiflorum* | --; --; --; 1B | Perennial bulbiferous herb found gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 245 to 1,240 meters. | Blooming period: May-June. | **None**; the Study Area does not provide the soils required for this species. |
| Sacramento Orcutt grass<br>*Orcuttia viscida* | FE; CE; --; 1B | Annual herb found in vernal pools from 30 to 100 meters.<br><br>One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015). | Blooming period: May-October. | **None**; the Study Area does not provide habitat for this species. |
| Sanford's arrowhead<br>*Sagittaria sanfordii* | --; --; --; 1B | Perennial rhizomatous herb found in marshes and swamps in assorted shallow freshwater areas from 0 to 650 meters.<br><br>Two CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015). | Blooming period: May-October. | **None**; the Study Area does not provide habitat for this species. |
| Slender orcutt grass<br>*Orcuttia tenuis* | FT; CE; --; 1B | Annual herb found in vernal pools that are often gravelly, from 35 to 1,760 meters. | Blooming period: May-October. | **None**; the Study Area does not provide habitat for this species. |
| Starved daisy<br>*Erigeron miser* | --; --; --; 1B | Perennial herb usually found on rocky substrate in upper montane coniferous forest from 1,840 to 2,620 meters. | Blooming period: June-October. | **None**; the Study Area does not provide habitat for this species. |
| Stebbins' morning glory<br>*Calystegia stebbinsii* | FE; CE; --; 1B | Perennial rhizomatous herb found in openings of chaparral and cismontane woodland on gabbro or serpentinite soils from 185 to 1,090 meters. | Blooming period: April-July. | **None**; the Study Area does not provide the soils required for this species. |
| Tuolumne button-celery<br>*Eryngium pinnatisectum* | --; --; --; 1B | Annual/perennial herb found in mesic areas in cismontane woodland, lower montane coniferous forest, and vernal pools from 70 to 915 meters. | Blooming period: May-August. | **Low**; the oak woodland within the Study Area provides habitat for this species. |
| **Wildlife** | | | | |
| **Invertebrates** | | | | |
| Valley elderberry longhorn beetle<br>*Desmocerus californicus dimorphus* | FT; --; --; -- | Blue elderberry shrubs usually associated with riparian areas.<br><br>Two CNDDB occurrences occur within 5 miles of the Study Area. | Adults emerge in spring until June. Exit holes visible year-round. | **Low**; although elderberry shrubs were observed within the Study Area, no exit holes were observed and the shrubs were located outside of riparian habitat. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Vernal pool fairy shrimp *Branchinecta lynchi* | FT; --; --; -- | Vernal pools, swales, and ephemeral freshwater habitat.<br><br>Two CNDDB occurrences occur within 5 miles of the Study Area. | USFWS protocol-level wet-season sampling and/or dry season cyst identification. | **None**; the Study Area does not provide habitat for this species. |
| Vernal pool tadpole shrimp *Lepidurus packardi* | FE; --; --; -- | Vernal pools, swales, and ephemeral freshwater habitat.<br><br>Two CNDDB occurrences occur within 5 miles of the Study Area. | USFWS protocol-level wet-season sampling and/or dry season cyst identification. | **None**; the Study Area does not provide habitat for this species. |
| **Amphibians/Reptiles** | | | | |
| California red-legged frog *Rana aurora draytonii* | FT; CSC; --; -- | Requires a permanent water source and is typically found along quiet, slow-moving streams, ponds, or marsh communities with emergent vegetation. Believed extirpated from the Central Valley floor since 1970s. | Aquatic surveys of breeding sites between January and September. Optimally after April 15. | **Low**; the perennial drainages provide aquatic habitat and the riparian habitat surrounding the perennial drainage provide upland habitat, however, the Study Area occurs outside of the geographical range for the species. |
| California tiger salamander *Ambystoma californiense* | FT; CT; --; -- | Ponded water required for breeding. Adults spend summer in small mammal burrows. The central population of this species is not known to occur north of Highway 16. | Drift fence studies during fall and winter for upland habitats. | **None**; the Study Area occurs outside of the known geographic range for this species. |
| Coast (California) horned lizard *Phrynosoma blainvillii* | --; CSC; --; -- | Grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills. | Year-round | **None**; the Study Area does not provide the soils required for this species. |
| Giant garter snake *Thamnophis gigas* | FT; CT; --; -- | Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November – mid March). This species is known from Sacramento, Sutter, Butte, Colusa, and Glenn counties. In Sacramento County, this species is known along the valley floor, west of Highway 99. | Active outside of dormancy period November-mid March. | **None**; the Study Area occurs outside of the known geographical range for this species. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Western pond turtle<br>*Emys marmorata* | --; CSC; --; -- | Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.<br><br>Four CNDDB occurrences occur within 5 miles of the Study Area (CDFW 2015). | Year-round | **High**; the perennial drainages provide aquatic habitat for this species. The annual grassland and riparian habitat provide upland habitat for this species. |
| Western spadefoot<br>*Spea hammondii* | --; CSC; --; -- | Open grasslands and woodlands. Requires vernal pools or seasonal wetlands for breeding. | Year-round | **Low**; the disturbed nonnative annual grassland and oak woodland provide upland habitat and the seasonal wetlands provide breeding habitat for this species. |
| **Fish** | | | | |
| Central Valley spring-run Chinook salmon<br>*Oncorhynchus tshawytscha* | FT; CT; --; -- | Spawn in Mill, Deer, and Butte Creeks and in Yuba River and Feather River watersheds. Juveniles may journey up to 5 miles upstream in Sacramento River tributaries. | Migrate from late March – September. Spawn in mid-August – early October. | **None**; the perennial drainages within the Study Area is not deep enough to provide fish passage. |
| Central Valley winter-run Chinook salmon<br>*Oncorhynchus tshawytscha* | FE; CE; --; -- | Spawn in northern Sacramento River (Redding to Red Bluff) and its tributaries. Juveniles may journey up to 5 miles upstream in other tributaries. | Migrate from late December - August. Spawn April - August | **None**; the perennial drainages within the Study Area is not deep enough to provide fish passage. |
| Central Valley steelhead<br>*Oncorhynchus mykiss* | FT; --; --; -- | Rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems. | Spawn in winter and spring. | **None**; the perennial drainages within the Study Area is not deep enough to provide fish passage. |
| Delta smelt<br>*Hypomesus transpacificus* | FT; CE; --; -- | Shallow fresh or brackish water tributary to the Delta ecosystem; spawns in freshwater sloughs and channel edgewaters. Known almost exclusively in the Fresno-San Joaquin estuary. | Spawn December – July. Present year-round in delta. | **None**; the Study Area does not occur within the known geographic range for this species. |
| **Birds** | | | | |
| Bald eagle<br>*Haliaeetus leucocephalus* | FD; CFP; --; -- | Nesting restricted to the mountainous habitats near permanent water sources in the northernmost counties of California, the Central Coast Region, and on Santa Catalina Island. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands. | Year-round | **None**; the Study Area is outside of the nesting range for this species and does not contain suitable foraging habitat. |
| Bank swallow<br>*Riparia riparia* | --; CT; --; -- | Nests in riverbanks and forages over riparian areas and adjacent uplands. | Spring – Fall | **None**; there is no nesting habitat for this species within the Study Area. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Burrowing owl<br>*Athene cunicularia* | --; CSC; --; -- (burrowing sites and some wintering sites) | Nests in burrows in the ground, often in old ground squirrel burrows, within open dry grassland and desert habitat<br><br>Four CNDDB occurrences occur within 5 miles of the Study Area (CDFW 2015). | Year-round; Breeding season surveys between March and August. | **Present**; this species was observed within the ruderal/developed areas during the biological surveys. |
| Golden eagle<br>*Aquila chrysaetos* | --; CFP; --; -- (nesting and wintering) | Open and semi-open areas up to 12,000 feet in elevation. Builds stick nests on cliffs, in trees, or on man-made structures.<br><br>One CNDDB occurrence occurs within 5 miles of the Study Area (CDFW 2015). | Year-round | **High**; the annual grassland provides foraging habitat and the trees within the riparian habitat and oak woodland provide nesting habitat for this species. An active nest was observed in 2013 and 2014, approximately 2 miles north of the Study Area; however, the nest tree is no longer standing and this species was not observed foraging within the Study Area during the biological surveys. |
| Grasshopper sparrow<br>*Ammodramus savannarum* | --; CSC; --; -- | Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass. This species is known from Los Angeles, Mendocino, Orange, Placer, Sacramento, San Diego, San Luis Obispo, Solano, and Yuba counties, in California.<br><br>One CNDDB occurrence occurs within 5 miles of the Study Area (CDFW 2015). | Year-round | **Low**; although the disturbed nonnative annual grassland provides habitat for this species, the soils provide only marginal habitat. |
| Swainson's hawk<br>*Buteo swainsoni* | --; CT; --; -- | Nest peripherally to Valley riparian systems lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley. This species is known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Inyo, Kern, Kings, Lassen, Los Angeles, Madera, Merced, Modoc, Mono, Napa, Placer, Plumas, Sacramento, San Bernardino, San Joaquin, San Luis Obispo, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties.<br><br>Four CNDDB occurrences occur within 5 miles of the Study Area (CDFW 2015). | March – October. | **High**; the trees within the riparian habitat and oak woodland provide potential nesting habitat and the disturbed nonnative annual grassland provides foraging habitat. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Tricolored blackbird<br>*Agelaius tricolor* | --; CSC; --; -- (nesting colony) | Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central Valley and foothills surrounding the valley.<br><br>Six CNDDB occurrences occur within 5 miles of the Study Area (CDFW 2015). | Year-round | **High**; the riparian vegetation surrounding the perennial drainages provide marginal nesting habitat for this species; however, the patch sizes are most likely not of sufficient size to support a breeding colony. The disturbed nonnative annual grassland provides foraging habitat for this species. |
| White-tailed kite<br>*Elanus leucurus* | --; CFP; --; -- | Nests in isolated trees or woodland areas with suitable open foraging habitat.<br><br>Five CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015). | Year-round | **High**; the trees within the riparian habitat and the oak woodland provide nesting habitat for this species. |
| Other Raptors (Hawks, Owls and Vultures) and Migratory Birds | MBTA and §3503.5 Department of Fish and Game Code | Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, annual grassland, and urban communities. | February 15 – August 31 | **High**; the annual grassland and the trees within the riparian habitat and the oak woodland provide nesting habitat for this species. |
| **Mammals** | | | | |
| American badger<br>*Taxidea taxus* | --; CSC; --; -- | Found in a variety of grasslands, shrublands, and open woodlands throughout California. | Year-round | **Low**; the disturbed nonnative annual grassland provides habitat; however, suitable burrows were not observed during biological surveys. |
| Fisher<br>*Martes pennanti* | FC; CCT; --; -- | Occurs in intermediate to large-tree stages of coniferous and deciduous forests. | Most active at dusk and night, year-round; camera and tracking surveys. | **None**; there is no habitat for this species within the Study Area. |
| Pallid bat<br>*Antrozous pallidus* | --; CSC; --; -- | Most abundant in oak woodland, savannah, and riparian habitats. Roosts in crevices and hollows in trees, rocks, cliffs, bridges, and buildings. | Year-round | **Low**; potential roosting habitat is present within the trees within the riparian habitat and oak woodland. |

| **Federally-Listed Species:** | **California State Ranked Species:** | **CNPS* Rank Categories:** |
|---|---|---|
| FE = federal endangered | CE = California state endangered | 1A = plants presumed extinct in California |
| FT = federal threatened | CT = California state threatened | 1B = plants rare, threatened, or endangered in California and elsewhere |
| FC = candidate | CR = California state rare | 2 = plants rare, threatened, or endangered in California, but common elsewhere |
| PT = proposed threatened | CSC = California species of special Concern | 3 = plants about which we need more information |
| FPD = proposed for delisting | CSA = California Special Animals List | 4 = plants of limited distribution |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| FD = delisted | | CCT = California state threatened candidate | **Other Special-Status Listing:**<br><br>SLC – species of local or regional concern or conservation significance<br><br>*Source: Foothill Associates* | |