

Appendix D  
**Biological Resources**



California Department of Fish and Game  
 Natural Diversity Database  
 Special-Status Species and Sensitive Natural Community Identified in the Project Vicinity

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 Agelaius tricolor tricolored blackbird	ABPBXB0020			G2G3	S2	SC
2 Allium jepsonii Jepson's onion	PMLIL022V0			G1	S1.2	1B.2
3 Ammonitella yatesii tight coin (=Yates' snail)	IMGASB0010			G1	S1	
4 Andrena subapasta A vernal pool andrenid bee	IIHYM35050			G1G3	S1S3	
5 Balsamorhiza macrolepis var. macrolepis big-scale balsamroot	PDAST11061			G3G4T2	S2	1B.2
6 Banksula californica Alabaster Cave harvestman	ILARA14020			GH	SH	
7 Banksula galilei Galile's cave harvestman	ILARA14040			G1	S1	
8 Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
9 Calystegia stebbinsii Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1.1	1B.1
10 Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G2	S2.1	1B.2
11 Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020			G3	S3	1B.2
12 Clarkia biloba ssp. brandegeeeae Brandegee's clarkia	PDONA05053			G4G5T3	S3	1B.2
13 Corynorhinus townsendii Townsend's big-eared bat	AMACC08010			G4	S2S3	SC
14 Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
15 Elanus leucurus white-tailed kite	ABNKC06010			G5	S3	
16 Emys marmorata western pond turtle	ARAAD02030			G3G4	S3	SC
17 Fritillaria eastwoodiae Butte County fritillary	PMLILOV060			G3Q	S3	3.2
18 Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1.2	1B.2
19 Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G2	S2	1B.2
20 Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
21 Helianthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0			G2Q	S2.2	3.2
22 Laterallus jamaicensis coturniculus California black rail	ABNME03041		Threatened	G4T1	S1	
23 Lathyrus sulphureus var. argillaceus dubious pea	PDFAB25101			G5T1T2	S1S2	3

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Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Linderiella occidentalis</i> California linderiella	ICBRA06010			G3	S2S3	
25 <i>Martes pennanti</i> (pacific) DPS Pacific fisher	AMAJF01021	Candidate		G5	S2S3	SC
26 Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1	
27 <i>Packera layneae</i> Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
28 <i>Pandion haliaetus</i> osprey	ABNKC01010			G5	S3	
29 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
30 <i>Progne subis</i> purple martin	ABPAU01010			G5	S3	SC
31 <i>Rana boylei</i> foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
32 <i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080			G5	S2.3	2.3
33 <i>Wyethia reticulata</i> El Dorado County mule ears	PDAST9X0D0			G2	S2	1B.2

**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: 110321091842

Database Last Updated: April 29, 2010

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**Quad Lists**

**GREENWOOD (526B)**

Listed Species

Invertebrates

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

Fish

*Hypomesus transpacificus*  
delta smelt (T)

*Oncorhynchus mykiss*  
Central Valley steelhead (T) (NMFS)

Amphibians

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

**AUBURN (527A)**

Listed Species

Invertebrates

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

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

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

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**County Lists**

## Placer County

### Listed Species

#### Invertebrates

*Branchinecta conservatio*

Conservancy fairy shrimp (E)

*Branchinecta lynchi*

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*

valley elderberry longhorn beetle (T)

*Lepidurus packardii*

vernal pool tadpole shrimp (E)

#### Fish

*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)

#### Reptiles

*Thamnophis gigas*

giant garter snake (T)

### Proposed Species

#### Amphibians

*Rana draytonii*

Critical habitat, California red-legged frog (PX)

## Candidate Species

### Amphibians

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

### Mammals

*Martes pennanti*  
fisher (C)

### Plants

*Rorippa subumbellata*  
Tahoe yellow-cress (C)

## 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 June 19, 2011.

## Vegetation Communities

### Annual Grassland

Annual grassland, which encompasses approximately 14.7 acres within the biological study area, is dominated by nonnative annual grasses such as soft chess (*Bromus hordeaceus*), wild oat (*Avena* spp.), ripgut brome (*B. diandrus*), hedgehog dogtail grass (*Cynosurus echinatus*), Italian ryegrass (*Lolium multiflorum*), and Medusahead (*Taeniatherum caput-medusae*). Nonnative forbs observed in annual grasslands were hedge-parsley (*Torilis arvensis*), rose clover (*Trifolium hirtum*), yellow star-thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*). Native forbs observed were common madia (*Madia elegans*), Spanish lotus (*Lotus purshianus*), yarrow (*Achillea millefolium*), and mustang mint (*Monardella* sp.).

The annual grasslands provide habitat for wildlife such as western fence lizard, Botta's pocket gopher (*Thomomys bottae*), and meadow vole (*Microtus californicus*.) These species provide a prey base for raptors, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and great horned owl (*Bubo virginianus*), and for mammals such as American badger (*Taxidea taxus*) and coyote (*Canis latrans*). Columbian black-tailed deer (*Odocoileus hemionus columbianus*) will use the grasslands during the spring to forage on grasses and forbs. Wild turkeys (*Meleagris gallopavo*) occasionally forage in annual grasslands for arthropods when escape cover is nearby.

### Mixed Oak Forest

As indicated, several species of oaks dominate the overstory of this vegetation community, which encompasses approximately 25.1 acres within the biological study area. The dominant oaks observed were blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), interior live oak (*Q. wislizeni*). Canyon live oak (*Q. chrysolepis*), black oak (*Q. kelloggii*), and foothill pine (*Pinus sabiniana*) were also present in the overstory. The shrub layer was relatively sparse, and representative species observed were oak sapling (*Quercus* spp.), poison oak (*Toxicodendron diversilobum*), wedgeleaf ceanothus (*Ceanothus cuneatus*), toyon (*Heteromeles arbutifolia*), and common manzanita (*Arctostaphylos manzanita*). The herbaceous layer of the mixed oak forest contains annual grassland species and several perennial grasses such as fescue (*Festuca* sp.) and blue wildrye (*Elymus glaucus*).

Mixed oak forest provides cover, foraging, and breeding opportunities for a variety of wildlife species. Species common to this habitat include western fence lizard, common kingsnake, acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), bushtit (*Psaltriparus minimus*), western scrub jay, red-tailed hawk, red-shouldered hawk, great horned owl, wild turkey, western gray squirrel (*Sciurus griseus*), dusky-footed woodrat (*Neotoma fuscipes*), harvest mouse (*Reithrodontomys megalotis*), and Columbian black-tailed deer.

### Ponderosa Pine Forest

Ponderosa pine forest, which encompasses approximately 10.4 acres within the biological study area, is dominated by ponderosa pine (*P. ponderosa*). Other species observed in the overstory were black oak,

interior live oak, and canyon live oak. The shrub understory is comparable to that of the mixed oak woodland, but the density of the herbaceous layer is much sparser.

Ponderosa pine forest provides cover, foraging, and breeding opportunities for a variety of wildlife species. Species common to this habitat include western fence lizard, common kingsnake, acorn woodpecker, Nuttall's woodpecker, bushtit, Steller's jay (*Cyanocitta stelleri*), red-shouldered hawk, great horned owl, wild turkey, western gray squirrel, raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), coyote, and Columbian black-tailed deer.

### **Arroyo Willow Thicket**

Arroyo willow (*Salix lasiolepis*) and Himalayan blackberry (*Rubus armeniacus*) are co-dominant in arroyo willow thickets, which encompass approximately 0.320 acre within the biological study area. Other species observed were red willow (*S. laevigata*) and small white alder (*Alnus rhombifolia*) saplings. Species observed in the herbaceous layer were mugwort (*Artemisia douglasiana*), curly dock (*Rumex crispus*), periwinkle (*Vinca major*), hedgehog dogtail grass, and hedge-parsley. The largest area of arroyo willow thicket is located adjacent to the wet meadow in the topographic depression that exhibits positive indicators of the three federal wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. The species comprising the arroyo willow thicket vegetation community along the perennial stream segments occur as scattered individuals that form a very sparse, poorly developed riparian corridor that is approximately 10-foot-wide in the biological study area.

Arroyo willow thicket provides cover, foraging, and breeding habitat for many small bird and mammal species.

### **Freshwater Marsh**

Freshwater marsh encompasses approximately 4.7 acres within the biological study area. The vegetation within freshwater marsh is dominated by narrowleaf cattail (*Typha angustifolia*). Other representative species observed were waxy manna grass (*Glyceria declinata*), dallis grass (*Paspalum dilatatum*), hairy willow herb (*Epilobium ciliatum*), curly dock, and umbrella nutsedge (*Cyperus eragrostis*).

Freshwater marsh provides habitat for various common species, including Pacific tree frog (*Pseudacris regilla*), western toad (*Bufo boreas*), garter snakes (*Thamnophis* spp.), redwing blackbird (*Agelaius phoeniceus*), great blue heron (*Ardea Herodias*), and great egret (*A. alba*).

### **Wet Meadow**

Wet meadow, which encompasses approximately 0.233 acre within the biological study area, is dominated by Santa Barbara sedge (*Carex barbarae*). Other representative species observed in wet meadow were iris-leaved rush (*Juncus xiphioides*), Mexican rush (*J. mexicanus*), moth mullein (*Verbascum blattaria*), narrowleaf milkweed (*Asclepias fascicularis*), and soft rush (*J. effusus*).

Wet meadow provides habitat for various common species, including Pacific tree frog, western toad, garter snakes, and meadow vole (*Microtus* sp.).

## **Developed/Graded Areas**

This land cover type, which is not considered a vegetation community, occurs throughout the biological study area. For the purposes of this document, developed/graded areas consist of the following: paved and unpaved roads, pullouts, graded areas, parking lots, and existing structures (e.g., residential residences). The extent of developed/graded areas within the biological study area is approximately 38.4 acres.

Developed and graded areas have little to no wildlife value. Common species may occur in landscaped areas around residences and other developed areas.

## **Wetlands and Other Waters**

Wetlands in the biological study area consist of the freshwater marsh, wet meadow, and the area of arroyo willow scrub adjacent to the wet meadow. The other (i.e., non-wetland) waters in the biological study area are: perennial streams, intermittent streams, ephemeral streams, and two of the three ponds at the Applegate WWTP plant. Each type of other water is discussed in Section 3.2.3. The delineation of wetlands and waters was conducted to support the submission of a preliminary jurisdictional determination to the USACE Sacramento District. Therefore, in accordance with a preliminary jurisdictional determination approach, all the wetlands and other waters in the biological study area were interpreted to be waters of the U.S., including wetlands, that fall within the scope of USACE jurisdiction under CWA Section 404. The wetlands and other waters are also subject to regulation under the state Porter-Cologne Water Quality Control Act.

## Plant Species Observed in the Biological Study Area

<i>Scientific Name</i>	Common Name
<i>Achillea millefolium</i>	yarrow
<i>Aesculus californica</i>	California buckeye
<i>Aira caryophylla</i>	annual hairgrass
<i>Alnus rhombifolia</i>	white alder
<i>Amsinckia menziesii</i>	fiddleneck
<i>Anagallis arvensis</i>	scarlet pimpernel
<i>Arctostaphylos manzanita</i>	common manzanita
<i>Arctostaphylos uva-ursi</i>	bearberry manzanita
<i>Artemisia douglasiana</i>	mugwort
<i>Asclepias fascicularis</i>	narrowleaf milkweed
<i>Aster chilensis</i>	common aster
<i>Avena barbata</i>	slender wild oat*
<i>Avena fatua</i>	wild oat*
<i>Baccharis pilularis</i>	coyote brush
<i>Bromus diandrus</i>	ripgut brome*
<i>Bromus hordeaceus</i>	soft chess*
<i>Carduus pycnocephalus</i>	Italian thistle*
<i>Carex barbarae</i>	Santa Barbara sedge
<i>Ceanothus cuneatus</i>	wedgeleaf ceanothus
<i>Centaurea solstitialis</i>	yellow star-thistle*
<i>Centaureum venustum</i>	charming centaury
<i>Cercis occidentalis</i>	western redbud
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	soap plant
<i>Cichorium intybus</i>	chicory
<i>Cirsium vulgare</i>	bull thistle*
<i>Conyza canadensis</i>	horseweed

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<i>Scientific Name</i>	Common Name
<i>Cortaderia selloana</i>	pampas grass*
<i>Cynosurus echinatus</i>	hedgehog dogtail grass
<i>Cyperus eragrostis</i>	umbrella nutsedge
<i>Cytisus scoparius</i>	Scotch broom*
<i>Dactylis glomerata</i>	orchard grass*
<i>Eleocharis acicularis</i>	needle spikerush
<i>Elymus glaucus</i>	blue wildrye
<i>Epilobium ciliatum</i>	hairy willow herb
<i>Eremocarpus setigerus</i>	doveweed
<i>Erodium cicutarium</i>	redstem filaree*
<i>Festuca</i> sp.	fescue
<i>Ficus carica</i>	edible fig*
<i>Geranium dissectum</i>	cutleaf geranium*
<i>Glyceria declinata</i>	waxy mannagrass*
<i>Gnaphalium californicum</i>	California cudweed
<i>Grindelia camporum</i>	common gumplant
<i>Hedera helix</i>	English ivy*
<i>Heteromeles arbutifolia</i>	toyon
<i>Hirschfeldia incana</i>	Mediterranean hoary mustard*
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	hare barley*
<i>Hypericum perforatum</i>	Klamathweed*
<i>Iris</i> sp.	iris
<i>Juncus balticus</i>	Baltic rush
<i>Juncus effusus</i>	soft rush
<i>Juncus mexicanus</i>	Mexican rush
<i>Juncus xiphioides</i>	iris-leaved rush
<i>Juniperus</i> sp.	juniper
<i>Lactuca serriola</i>	prickly lettuce
<i>Lathyrus latifolius</i>	sweet pea

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<i>Scientific Name</i>	Common Name
<i>Lepidium virginicum</i>	Virginia pepperweed
<i>Leymus triticoides</i>	creeping wildrye
<i>Linum bienne</i>	pale flax
<i>Lolium multiflorum</i>	Italian ryegrass*
<i>Lotus argophyllus</i>	silver birds foot trefoil
<i>Lotus purshianus</i>	Spanish lotus
<i>Madia elegans</i>	common madia
<i>Marrubium vulgare</i>	horehound*
<i>Medicago polymorpha</i>	bur clover*
<i>Mentha spicata</i>	spearmint
<i>Monardella</i> sp.	mustang mint
<i>Paspalum dilatatum</i>	dallis grass
<i>Phalaris aquatica</i>	Harding grass*
<i>Pinus ponderosa</i>	ponderosa pine
<i>Pinus sabiniana</i>	foothill pine
<i>Plantago lanceolata</i>	English plantain*
<i>Polygonum hydropiper</i>	common smartweed
<i>Polygonum lapathifolium</i>	willow smartweed
<i>Polypogon monspeliensis</i>	rabbitsfoot grass*
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood
<i>Quercus chrysolepis</i>	canyon live oak
<i>Quercus douglasii</i>	blue oak
<i>Quercus kelloggii</i>	black oak
<i>Quercus lobata</i>	valley oak
<i>Quercus wislizenii</i>	interior live oak
<i>Rhamnus</i> sp.	coffeeberry
<i>Robinia pseudoacacia</i>	black locust*
<i>Rorippa nasturtium-aquaticum</i>	watercress
<i>Rosa</i> sp.	rose

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<i>Scientific Name</i>	Common Name
<i>Rubus armeniacus</i>	Himalayan blackberry*
<i>Rumex crispus</i>	curly dock*
<i>Salix laevigata</i>	red willow
<i>Salix lasiolepis</i>	arroyo willow
<i>Sonchus oleraceus</i>	common sow thistle
<i>Stephanomeria virgata</i>	twiggy wreath plant
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	common snowberry
<i>Taeniatherum caput-medusae</i>	Medusahead*
<i>Torilis arvensis</i>	hedge-parsley*
<i>Toxicodendron diversilobum</i>	poison oak
<i>Trifolium ciliolatum</i>	foothill clover
<i>Trifolium hirtum</i>	rose clover
<i>Typha angustifolia</i>	narrowleaf cattail
<i>Verbascum blattaria</i>	moth mullein
<i>Vicia villosa</i> ssp. <i>varia</i>	winter vetch
<i>Vinca major</i>	periwinkle*
<i>Vitis californica</i>	California wild grape
<i>Vulpia bromoides</i>	brome fescue
<i>Vulpia myuros</i>	rattail fescue*
<i>Xanthium strumarium</i>	rough cocklebur

\* Species are identified as invasive by Cal-IPC and/or CDFA.

## Wildlife Species Observed in the Biological Study Area

Scientific Name	Common Name
<i>Rana catesbeiana</i>	American bullfrog
<i>Pseudacris regilla</i>	Pacific tree frog
<i>Bufo boreas</i>	Western toad
<i>Actinemys marmorata</i>	Western pond turtle
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Anas platyrhynchos</i>	Mallard
<i>Aphelocoma californica</i>	Western scrub jay
<i>Ardea herodias</i>	Great blue heron
<i>Buteo lineatus</i>	Red shouldered hawk
<i>Callipepla californica</i>	California quail
<i>Cathartes aura</i>	Turkey vulture
<i>Colaptes auratus</i>	Northern flicker
<i>Meleagris gallopavo</i>	Wild turkey
<i>Pipilo maculatus</i>	Spotted towhee
<i>Sayornis nigricans</i>	Black phoebe
<i>Sialia mexicana</i>	Western bluebird
<i>Odocoileus hemionus</i>	Black-tailed deer

## Special-Status Species Identified as Having the Potential to Occur in the Biological Study Area

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
<b>Plants</b>				
Jepson's onion <i>Allium jepsonii</i>	--/--/1B.2	Sierra Nevada foothills in Butte, El Dorado, Placer, and Tuolumne Counties	Serpentine or volcanic soils in chaparral, cismontane woodland, lower montane coniferous forest; 300–1,320 meters. Reported blooming period is Apr–Aug.	Moderate–potential habitat present in mixed oak forest, Ponderosa pine forest, and annual grassland, but suitable microhabitat (serpentine) may or may not be present. Occurs within ~5 mi. of study area.
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	--/--/1B.2	Scattered occurrences in the Coast Ranges and Sierra Nevada foothills	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 90–1,555 meters, Reported blooming period is Mar–Jun.	Moderate–potential habitat present in mixed oak forest and annual grassland. Historic occurrence within ~10 mi. of study area.
Stebbin's morning-glory <i>Calystegia stebbinsii</i>	E/E/1B.1	Northern Sierra Nevada foothills with reported occurrences in El Dorado and Nevada Counties	Serpentine or gabbroic soils in chaparral openings, cismontane woodland; 185–730 meters. Reported blooming period is Apr–Jul.	Low–potential habitat present in mixed oak forest, but suitable microhabitat (serpentine) may or may not be present and no occurrences within ~10 mi. of study area. No Gabbro soils present.
Pine Hill ceanothus <i>Ceanothus roderickii</i>	E/R/1B.2	Endemic to El Dorado County	Serpentine or gabbro soils in chaparral or cismontane woodland; 245–630 meters. Reported blooming period is Apr–Jun.	None–according to 2010 CNDDb, occurs only on Gabbro-derived soils. No occurrences within ~10 mi. of study area.

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	--/--/1B.2	Northern and central Sierra Nevada foothills in Amador, Placer, El Dorado, and Tuolumne Counties	Serpentine or gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland; 245–1,240 meters. Reported blooming period is May–Jun.	Moderate–potential habitat present in mixed oak forest, Ponderosa pine forest, and annual grassland, but suitable microhabitat (serpentine) may or may not be present. Occurs within ~10 mi. of study area. No Gabbro soils present.
Brandegee's clarkia <i>Clarkia biloba</i> ssp. <i>brandegeae</i>	--/--/1B.2	Northern Sierra Nevada foothills from Butte to El Dorado Counties	Chaparral, cismontane woodland, often on roadcuts; 73–915 meters. Reported blooming period is May–Jul.	Moderate–potential habitat present in mixed oak forest and occurs within ~5 mi. of study area.
Butte County fritillary <i>Fritillaria eastwoodiae</i>	--/--/3.2	Sierra Nevada foothills from Shasta to El Dorado Counties	Chaparral, cismontane woodland, and openings in lower montane coniferous forest. Sometimes on serpentine between 50 and 1,500 meters. Reported blooming period is Mar–May.	Moderate–potential habitat present in mixed oak forest and Ponderosa pine forest. Serpentine may or may not be present. Occurs within ~5 mi. of study area.
El Dorado bedstraw <i>Galium californicum</i> ssp. <i>sierrae</i>	E/R/1B.2	Endemic to El Dorado County	On gabbroic soils in chaparral, cismontane woodland, lower montane coniferous forest; 100–585 meters. Reported blooming period is May–Jun.	None—not known to occur off Gabbro-derived soils on Pine Hill formation.

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Bogg's Lake hedge-hyssop  <i>Gratiola heterosepala</i>	-/E/1B.2	Occurs in the inner north Coast Range, central Sierra Nevada foothills, Sacramento Valley, and the Modoc Plateau.	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 10–2,375 meters. Reported blooming period is Apr–Aug.	Low—manmade ponds in the project vicinity are low quality habitat and species does not occur within ~10 mi. of study area.
Bisbee Peak rush-rose <i>Helianthemum suffrutescens</i>	--/--/3.2	Amador, Calaveras, El Dorado, Mariposa, Sacramento and Tuolumne Counties	Chaparral openings, often on serpentinite, gabbro, or lone soils; 45–840 meters. Reported blooming period is Apr–Jun.	None—no potential habitat present and not known to occur within ~10 miles of study area.
Parry's horkelia <i>Horkelia parryi</i>	--/--/1B.2	Northern and central Sierra Nevada foothills in Amador, Calaveras, El Dorado, and Mariposa Counties	Chaparral, or cismontane woodland openings, especially lone formations; 80–1,035 meters. Reported blooming period is Apr–Jun (uncommonly Sep).	Moderate—potential habitat present in mixed oak forest. No lone soils known from study area. Occurs within ~10 mi. of study area.
Dubious pea <i>Lathyrus sulphureus</i> var. <i>argillaceus</i>	--/--/3	Klamath Ranges, North Coast Ranges, Sierra Nevada in Calaveras, El Dorado, Nevada (status uncertain), Placer, Shasta, and Tehama Counties	Cismontane woodlands, lower and upper coniferous forests; 150–305 meters. Reported blooming period is Apr–May.	Low—potential habitat present in mixed oak forest and Ponderosa pine forest, but elevation of study area is substantially higher than elevation range of species and not known to occur within ~10 mi. of study area.

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Layne's ragwort <i>Packera layneae</i>	T/R/1B.2	Northern Sierra Nevada foothills, Butte, El Dorado, Tuolumne, and Yuba Counties	Rocky serpentinite or gabbro soils in chaparral and foothill woodland; 200–1,000 meters. Reported blooming period is Apr–Aug.	Moderate–potential habitat present in mixed oak forest but suitable microhabitat (serpentine) may or may not be present. Occurs within ~10 mi. of study area. No Gabbro soils present.
Sierra bluegrass <i>Poa sierrae</i>	--/--/1B.3	Butte, El Dorado, Nevada, Plumas, and Shasta Counties	Lower montane coniferous forests; 365–1,500 meters. Reported blooming period is Apr–Jun.	Moderate–potential habitat present in Ponderosa pine forest. Occurs within ~10 mi. of study area.
Tahoe yellow-cress <i>Rorippa subumbellata</i>	C/E/1B/.1	Lake Tahoe Basin: El Dorado, Nevada*, and Placer Counties; also adjacent Nevada	Lower montane coniferous forest, meadows and seeps, on decomposed granitic beaches; 1,895–1,900 meters. Reported blooming period is May–Sep.	None—no granite beaches present and study area elevation is substantially lower than species' elevation range. Not known to occur within ~10 mi. of study area.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	--/--/2.3	Northwest California, San Francisco Bay Area, northern and central Sierra Nevada foothills in Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, and Sonoma Counties; Oregon, Washington	Chaparral, cismontane woodland, and lower montane coniferous forest; 215–1,400 meters. Reported blooming period is May–Jun.	Moderate–potential habitat present in mixed oak forest and Ponderosa pine forest. Occurs within ~5 mi. of study area.

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
El Dorado County mule ears <i>Wyethia reticulata</i>	--/--/1B.2	Endemic to El Dorado County	On clay, serpentine, or gabbro soils in chaparral, cismontane woodland, and lower montane coniferous forest; 185–630 meters. Reported blooming period is Apr–Aug.	Moderate–potential habitat present in mixed oak forest and Ponderosa pine forest. Serpentine may or may not be present. Not known to occur within ~10 mi. of study area.
<b>Invertebrates</b>				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>		Central Valley; central and south Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	<b>No.</b> No suitable habitat exists within the project area or vicinity.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/--	Riparian and oak woodland habitats below 3,000 feet throughout the Central Valley and surrounding foothills	Riparian and oak savanna habitats with elderberry shrubs, which are the host plant	<b>No.</b> Habitat for this species was not observed within 100 feet of the study area.
<b>Fish</b>				
Delta smelt <i>Hypomesus transpacificus</i>	T/T	Are found only from the Suisun Bay upstream through the Delta in Contra Costa, San Joaquin, Sacramento, Solano, and Yolo Counties.	Are found in euryhaline waters of the Delta. Spawn in tidally influenced backwater sloughs and channel edgewaters	<b>No.</b> Outside of known range for the species.

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Central Valley steelhead <i>Oncorhynchus mykiss</i>	T/--	Sacramento and San Joaquin River and their tributaries.	An anadromous fish that spawns and spends a portions of its life in inland streams, typically maturing in the open ocean.	<b>No.</b> Migratory barrier approximately 11 miles downstream of the project.
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	T/T	Sacramento and San Joaquin River and their tributaries.	An anadromous fish that spawns and spends a portions of its life in inland streams, typically maturing in the open ocean.	<b>No.</b> Migratory barrier approximately 11 miles downstream of the project.
Winter-run Chinook salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	E/E	Sacramento River and its tributaries.	An anadromous fish that spawns and spends a portions of its life in inland streams, typically maturing in the open ocean.	<b>No.</b> Migratory barrier approximately 11 miles downstream of the project.
<b>Amphibians</b>				
California red-legged frog <i>Rana draytonii</i>	T/SSC	Historic range extended along the coast from the vicinity of Point Reyes National Seashore in Marin County, and inland from Shasta County south to Baja California. Current known distribution is along the coast from Marin County south to Los Angeles County (with inland populations in San Bernardino and Riverside Counties), the inner Coast Range from Tehama County south to eastern San Luis Obispo County, and in the Sierra Nevada from Butte County south to Tuolumne County.	Permanent and semi-permanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation and riparian species along the edges; may estivate in rodent burrows or cracks during dry periods	<b>Moderate.</b> Suitable habitat is present within the project area. Nearest recorded occurrence is approximately 14 miles northeast of the project area (CNDDDB 2010).

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Foothill yellow-legged frog <i>Rana boylei</i>	--/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby instream pools for breeding and refuge.	<b>Moderate.</b> Streams in project area represent suitable habitat for this species. There are several occurrences of this species within 5 miles of the project area (CNDDDB 2010).
<b>Reptile</b>				
Western pond turtle <i>Actinemys marmorata</i>	--/SSC	The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	<b>High.</b> Suitable habitat is present within the project area. An unidentified turtle was observed in WWTP Pond #3 and the streams crossed by the pipeline represent potential habitat for this species.
California horned lizard <i>Phrynosoma coronatum frontale</i>	--/SSC	Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast, typically below 4,000 feet in the Sierra Nevada foothills.	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging	<b>Moderate.</b> Suitable habitat is present in the project area. There are recorded occurrences of this species approximately 6-7 miles north of the project area (CNDDDB 2010).

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
<b>Birds</b>				
Tricolored blackbird (nesting colony) <i>Agelaius tricolor</i>	--/SSC	Largely endemic to California; permanent residents in the Central Valley from Butte County to Kern County; at scattered coastal locations from Marin County south to San Diego County; breeds at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields; nesting habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony; requires large foraging areas, including marshes, pastures, agricultural wetlands, dairies, and feedlots, where insect prey is abundant	<b>Low.</b> Though there are areas of dense cattails in the project area (e.g. WWTP pond) these areas are not large enough to support large colonies of tri-colored blackbirds and lack nearby large foraging areas. The nearest recorded occurrence is more than 10 miles from the project area (CNDDDB 2010).
White-tailed kite (nesting) <i>Elanus leucurus</i>	--/FP	Lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging	<b>Low.</b> The project area is outside of the typical elevational range of the species and lacks open grassland areas where this species typically forages. The nearest recorded occurrence of this species is approximately 10 miles southwest of the project area (CNDDDB 2010).

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
Bald eagle <i>Haliaeetus leucocephalus</i>	D/E	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of large bodies of water (lake, reservoir, river, or the ocean)	<b>Low.</b> The nearby Lake Theodore is atypical nesting location for bald eagle, though could be occupied wintering habitat. The nearest recorded occurrence is more than 10 miles from the project area (CNDDDB 2010).
California black rail <i>Laterallus jamaicensis coturniculus</i>	--/T	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in shallow brackish marshes or freshwater marshes at low elevations	<b>Low.</b> There is no suitable habitat in the project area. The nearest recorded occurrence is more than 10 miles from the project area (CNDDDB 2010).
Purple martin <i>Progne subis</i>	--/SSC	Coastal mountains south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges	<b>Low.</b> There is suitable nesting habitat for this species within the project area; however there are no recorded occurrences within 10 miles of the project area and the only known nesting occurrences in the greater Sacramento region and foothills are in highway overpasses (CNDDDB 2010).

Common and Scientific Name	Status <sup>a</sup> Fed/State/Other	Distribution	Preferred Habitats	Known and Potential Occurrence in the Biological Study Area
<b>Mammals</b>				
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--/SSC	Widespread throughout California.	Roosts in caves, tunnels, mines, crevices, hollow trees, and buildings; usually near water.	<b>Moderate.</b> There is suitable habitat within the project area. The nearest recorded occurrence for this species is approximately 8 miles southwest of the project area (CNDDDB 2010).
Pacific fisher <i>Martes pennanti (pacifica)</i>	C/SSC	Coastal mountains from Del Norte County to Sonoma Counties, east through the Cascades to Lassen County, and south in the Sierra Nevada to Kern County, typically above 3,000 feet.	Large areas of intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs, and rocky areas for cover and denning.	<b>Low.</b> Habitat within the project area is limited and the project area is below the typical elevational range of this species. The nearest recorded occurrence is approximately 8 miles northeast of the site and was reported in 1973.

<sup>a</sup> Status definitions:

**Federal**

- E = listed as endangered under the federal Endangered Species Act (ESA)
- T = listed as threatened under the federal Endangered Species Act (ESA)
- D = de-listed
- = no listing

**State**

- E = listed as endangered under the California Endangered Species Act
- T = listed as threatened under the California Endangered Species Act
- R = listed as rare under the California Endangered Species Act
- SSC = species of special concern in California
- FP = fully protected under the California Fish and Game Code
- = no listing

**California Native Plant Society (CNPS)**

- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere
- 2 = List 2 species: rare, threatened, or endangered in California, but more common elsewhere
- 3 = List 3 species: plants about which more information is needed to determine their status
  
- .1 = seriously endangered in California
- .2 = fairly endangered in California
- .3 = not very endangered in California

<sup>b</sup> Under petition for federal listing under the ESA. Species under petition are required to be actively considered by USFWS for elevation to proposed endangered or threatened status.

The determinations of the potential for each species to occur are generally based on the following criteria:

High: Known occurrence of plant in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions and suitable microhabitat conditions.

Moderate: Known occurrence of plant in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions but suitable microhabitat conditions are not present.

Low: Plant not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or habitat conditions of poor quality.

None: Plant not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or suitable habitat not present in any condition.