Appendix E

Vegetation and Wildlife Technical Appendix

Appendix E.1

Plant and Wildlife Species Observed in the Project Area

Appendix E.1

Plant and Wildlife Species Observed in the Project Area

E.1.1 Species Observed

Table E-1a. Plant Species Observed in the Project Area

Scientific Name	Common Name
Acer negundo var. *californicum*	Box elder
Acmispon americanus var. *americanus* [*Lotus purshianus*]	Spanish lotus
Agrostis exarata	Spike bentgrass
*Ailanthus altissima**	Tree-of-heaven
Artemisia douglasiana	Mugwort
*Avena barbata**	Slender wild oat
*Avena fatua**	Wild oat
Bacchanris glutinosa [*douglasii*]	Marsh baccharis
Baccharis pilularis	Coyote brush
*Brassica nigra**	Black mustard
*Brassica rapa**	Field mustard
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft chess
Bromus madritensis ssp. *rubens**	Red brome
Campsis radicans	Trumpet creeper
*Carduus pycnocephalus**	Italian thistle
Carex barbarae	Santa Barbara sedge
Carya illinoinensis	Pecan
*Centaurea solstitialis**	Yellow star-thistle
Cephalanthus occidentalis var. *californicus*	Common buttonbush
Chenopodium album	Lamb's quarters
Cichorium intybus	Chicory
*Cirsium vulgare**	Bull thistle
*Convolvulus arvensis**	Bindweed
Conyza canadensis	Horseweed
Croton setigerus	Turkey mullein
*Cynodon dactylon**	Bermuda grass
Cyperus eragrostis	Tall flatsedge
Echinochloa crus-galli	Barnyard grass
Elymus [*Leymus*] *triticoides*	Beardless wildrye
Equisetum arvense	Horsetail
Erodium botrys	Big heronbill
*Eucalyptus globulus**	Blue gum
*Festuca arundinacea**	Tall fescue

Scientific Name	Common Name
Festuca perenne [*Lolium perenne*]*	Italian ryegrass
*Ficus carica**	Edible fig
*Foeniculum vulgare**	Sweet fennel
Frangula [*Rhamnus*] *californica*	Coffeeberry
Fraxinus latifolia	Oregon ash
Galium aparine	Common bedstraw
Gleditsia triacanthos	Honey locust
Gnaphalium palustre	Lowland cudweed
*Hedera helix**	English ivy
Heliotropium curassavicum	Salt heliotrope
Helminthotheca [*Picris*] *echioides**	Bristly ox-tongue
Hordeum murinum ssp. *leporinum**	Foxtail barley
Juglans californica var. *hindsii*	Black walnut
Juncus balticus[2]	Baltic rush
Lactuca serriola	Prickly lettuce
*Lepidium latifolium**	Perennial peppergrass
Lotus corniculatus	Birdsfoot trefoil
Lupinus bicolor	Bicolor lupine
Malva neglecta	Common mallow
Malvella leprosa	Alkali mallow
*Medicago polymorpha**	Bur clover
Medicago sativa	Alfalfa
Melilotus alba	White sweetclover
Mimulus guttatus	Monkeyflower
Morus alba	Mulberry
*Nicotiana glauca**	Tree-tobacco
Olea europaea	Olive
Paspalum dilatatum	Dallisgrass
Persicaria hydropiperoides	Knotweed
*Phalaris aquatic**	Harding grass
*Phoenix canariensis**	Canary Island date palm
Phoradendron macrophyllum	Big-leaf mistletoe
*Plantago lanceolata**	English plantain
Platanus x hispanica	London plane tree
Platanus racemosa	California sycamore
Polygonum arenastrum ssp. *depressum*	Common knotweed
Polygonum aviculare	Prostrate knotweed
*Polypogon monspeliensis**	Rabbitsfoot grass
Polypogon interruptus	Ditch rabbitsfoot grass
Populus fremontii ssp. *fremontii*[2]	Fremont cottonwood
Quercus agrifolia	Coast live oak
Quercus lobata	Valley oak

Scientific Name	Common Name
*Raphanus sativus**	Wild radish
*Robinia pseudoacacia**	Black locust
Rubus armeniacus [*discolor*]*	Himalayan blackberry
Rubus ursinus	California blackberry
*Rumex crispus**	Curly dock
Salix exigua	Sandbar willow
Salix gooddingii	Black willow
Salix lasiolepis	Arroyo willow
Sambucus nigra [*mexicana*]	Blue elderberry
Schoenoplectus acutus	Tule
Senecio vulgaris	Old man of spring
*Sesbania punicea**	Purple river-hemp/scarlet wisteria
*Silybum marianum**	Milk-thistle
Sisymbrium officinale	Hedge mustard
Sonchus oleraceus	Common sow thistle
*Sorghum halepense**	Johnsongrass
*Trifolium hirtum**	Rose clover
Triticum aestivum	Common wheat
Typha angustifolia	Narrow-leaved cattail
Ulmus minor	English elm
Verbascum blatteria	Moth mullein
Verbena bonariensis	Purpletop vervain
Vicia villosa	Hairy vetch
Vitis californica	California wild grape

* Species is included on the CDFA Noxious Weed Species List (California Department of Food and Agriculture 2010) (A, B, or C rating) and/or the California Invasive Plant Council California Invasive Plant Inventory (California Invasive Plant Council 2006 and 2007) (High, Moderate, or Limited rating).

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Table E-1b. Wildlife Species Observed in the Project Area

Common Name	Scientific Name
Reptiles	
American bullfrog	*Rana catesbeianna*
Red-eared slider	*Trachemys scripta elegans*
Western pond turtle	*Actinemys marmorata*
Birds	
American crow	*Corvus brachyrhynchos*
Black phoebe (nest)	*Sayornis nigricans*
Brewer's blackbird	*Euphagus cyanocephalus*
European starling	*Sturnus vulgaris*
House finch	*Carpodacus mexicanus)*
House wren	*Troglodytes aedon*
Killdeer (nest)	*Charadrius vociferous*
Mallard	*Anas platyrhynchos*
Mockingbird	*Mimus polyglottos*
Mourning dove	*Zenaida macroura*
Northern flicker	*Colaptes auratus*
Ring-necked pheasant	*Phasianus colchicus*
Red-winged blackbird	*Agelaius phoeniceus*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk (nest)	*Buteo jamaicensis*
Rock dove	*Columba livia*
Swainson's hawk	*Buteo swainsoni*
Turkey vulture	*Cathartes aura*
Western meadow lark	*Sturnella neglecta*
Western scrub jay	*Aphelocoma californica*
White-tailed kite	*Elanus leucaurus*
Yellow-billed magpie	*Pica nuttalli*
Mammals	
California ground squirrel	*Spermophilus beecheyi*
Black-tailed jack rabbit	*Lepus californicus*

E.1.2 References

California Department of Food and Agriculture. 2010. *Pest Ratings of Noxious Weed Species and Noxious Weed Seeds.* Available: <http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_pestrating_2010.pdf>. Accessed: July 2011.

California Invasive Plant Council. 2006. *California Invasive Plant Inventory*. February. (Cal-IPC Publication 2006-02.) Berkeley, CA. Available: <http://www.cal-ipc.org/ip/inventory/pdf/Inventory2006.pdf>. Accessed: July 2011.

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Appendix E.2

Wildlife Species Accounts

Appendix E.2
Species Accounts for Special-Status Wildlife Potentially Occurring in the Project Area

E.2.1 Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) is federally listed as threatened under the Federal Endangered Species Act (ESA). The range of the beetle extends throughout the Central Valley of California and associated foothills, from the 3,000-foot-high contour in the east foothills, through the valley floor to the watershed of the Central Valley in the west foothills (U.S. Fish and Wildlife Service 1999a). Elderberry shrubs are found in the remaining riparian forests and grasslands of the Central Valley and adjacent foothills. The beetle often is associated with various plant species, such as Fremont's cottonwood, California sycamore, willow, and oak (U.S. Fish and Wildlife Service 1999a).

Elderberry shrubs are the host plant for VELB and are a common component of the remaining riparian forests of the Central Valley. Elderberry shrubs are also common in upland habitats. Field surveys have found that adult VELB feed on elderberry foliage and perhaps flowers and are present from March through early June. It is during this time that the adults mate. The females lay their eggs, either singly or in small clusters, in bark crevices or at the junction of stem and trunk or leaf petriole and stem. After hatching, a larva burrows into the stem of the elderberry where it creates a gallery that it fills with grass and shredded wood. After the larva transforms into an adult beetle, it chews an exit hole and emerges from the elderberry. The life span of VELB ranges from 1 to 2 years. Studies of the spatial distribution of occupied shrubs suggest that the beetle is a poor disperser. (U.S. Fish and Wildlife Service 1999a.)

E.2.1.1 Status in the Project Area

There are two California Natural Diversity Database (CNDDB) (2013) records of VELB occurrence in the study area (Plate 3.10-1 in the EIS/EIR). One hundred and six elderberry shrubs were identified during the spring and fall 2011–2013 surveys in the study area (Table E.2-1). Not all of these shrubs would be affected by the proposed project. VELB has potential to occur wherever elderberry shrubs sized 1 inch in diameter or more at ground level occur. For the most part stem counts were conducted only for shrubs that could be directly or indirectly affected by the proposed project. See the tables below (Table E.2-2 through Table E.2-6) and the impact discussion (Section 3.10.3) for the number of shrubs and stems directly and indirectly affected for each alternative.

Table E.2-1. Summary of Stem Counts for All Elderberry Shrubs In the Study Area

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter) 1–3 Inches	3–5 Inches	>5 Inches	Comments
1	N	N	3	4	2	No impact
2	Y	Y	0	1	1	
3	Y	Y	13	5	5	
4	N	Y	19	2	2	
5	N	Y	18	0	1	
6	N	Y	60	5	9	
7	N	Y	33	10	18	
8	N	Y	8	5	2	
9	N	Y	30	2	8	
10	Y	Y	8	4	2	
11	–	Y	–	–	–	Covered in grapevines
12	–	Y	–	–	–	Covered in grapevines
13	–	Y	–	–	–	Covered with poison oak
14	–	Y	–	–	–	Covered with poison oak
15	–	Y	–	–	–	Covered with poison oak
16	Y	Y	1	1	2	
17	Y	Y	1	0	1	
18	Y	Y	3	0	2	
19	Y	Y	17	2	3	
20	Y	Y	11	1	1	
21	Y	Y	8	2	2	
22	–	Y	–	–	–	Covered in grapevines
23	N	Y	3	3	1	No impact
24	N	Y	18	7	7	
25	N	N	19	6	1	
26	N	N	18	2	0	
27	N	Y	9	0	2	Covered in blackberry brambles; best estimate of stems
28	N	Y	2	0	0	
29	–	–	–	–	–	No impact
30	Y	Y	0	0	1	
31	–	N	–	–	–	No Access
32	N	N	3	1	1	
33	–	N	–	–	–	No Access
34	Y	N	12	6	10	
35	N	N	9	1	8	
36	N	Y	0	0	1	
37	–	Y	–	–	–	Covered in blackberry and poison oak
38	–	Y	–	–	–	Covered in blackberry and poison oak
39a	N	N	3	0	0	
39b	–	N	–	–	–	Covered in blackberry and poison oak

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter) 1–3 Inches	3–5 Inches	>5 Inches	Comments
40	–	–	–	–	–	No impact
41a	–	N	–	–	–	Covered in blackberry
41b	–	N	–	–	–	Covered in blackberry
41c	Y	N	5	7	2	
42	–	–	–	–	–	No impact
43	–	–	–	–	–	No impact
44a	–	–	–	–	–	No impact
44b	–	–	–	–	–	No impact
44c	–	–	–	–	–	No impact
44d	–	–	–	–	–	No impact
45	Y	N	1	0	9	No impact
46	–	–	–	–	–	No impact
47	Y	Y	42	8	2	
48	–	–	–	–	–	No impact
49	N	N	0	0	1	
50	Y	N	16	7	7	
51	Y	N	14	4	7	
52	Y	Y	6	1	1	
53	Y	N	29	17	3	
54	N	Y	17	1	0	
55	–	–	–	–	–	No impact
56	–	–	–	–	–	No impact
57	–	–	–	–	–	No impact
58	–	–	–	–	–	No impact
59	–	–	–	–	–	No impact
60	–	–	–	–	–	No impact
61	–	–	–	–	–	No impact
62	–	–	–	–	–	No impact
63	–	–	–	–	–	No impact
64	N	Y	31	12	0	Best estimate of stem count; shrub surrounded by thick willow/blackberry/ fennel
65	N	Y	2	2	4	Thick grapevine surrounding shrub, best estimate of stem count.
66	N	Y	38	12	7	
67	N	Y	10	12	4	
68	Y	Y	16	4	2	
69	–	Y	–	–	–	Impenetrable blackberry around most of the shrub
70	N	Y	6	3	2	
71	–	Y	–	v	–	Impenetrable blackberry around most of the shrub
72	Y	Y	5	2	5	

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter) 1–3 Inches	3–5 Inches	>5 Inches	Comments
73	N	Y	3	0	2	
74	Y	Y	24	7	7	
75	N	Y	47	5	1	
76	Y	Y	12	3	2	
77	Y	Y	11	3	0	
78	Y	Y	13	3	9	
79	Y	Y	9	4	5	
80	–	Y	–	–	–	Impenetrable blackberry
81	–	Y	–	–	–	Impenetrable blackberry
82	–	Y	–	–	–	Impenetrable blackberry
83	–	Y	–	–	–	Impenetrable blackberry
84	–	Y	–	–	–	Impenetrable blackberry
85	–	Y	–	–	–	Impenetrable blackberry
86	–	Y	–	–	–	Impenetrable blackberry
87	–	–	–	–	–	No impact
88	–	Y	–	–	–	Impenetrable blackberry around the shrub
89	–	Y	–	–	–	Impenetrable blackberry around the shrub
90	–	Y	–	–	–	Impenetrable blackberry and poison oak around the shrub
91	–	Y	–	–	–	Impenetrable blackberry and poison oak around the shrub
92	N	Y	10	15	8	
93	–	Y	–	–	–	Impenetrable blackberry
94	–	Y	–	–	–	Impenetrable blackberry
95	–	Y	–	–	–	Impenetrable blackberry
96	–	Y	–	–	–	Covered in grapes and poison oak
97	Y	Y	3	0	1	
98	Y-	Y	4	0	0	
99	N	Y	1	0	0	No impact
100	Y	Y	8	2	0	

Table E.2-2. Summary of Stem Counts for All Elderberry Shrubs in Alternative 1

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter)			Effect on Shrub (Direct or Indirect)
			1–3 Inches	3–5 Inches	>5 Inches	
3	Y	Y	13	5	5	Direct
4	N	Y	19	2	2	Direct
5	N	Y	18	0	1	Direct
6	N	Y	60	5	9	Direct
7	N	Y	33	10	18	Direct
8	N	Y	8	5	2	Direct
9	N	Y	30	2	8	Direct
10	Y	Y	8	4	2	Direct
30	Y	Y	0	0	1	Direct
31 [1]	UNK	N	UNK	UNK	UNK	Direct
32	N	N	3	1	1	Direct
33 [1]	UNK	N	UNK	UNK	UNK	Direct
34	Y	N	12	6	10	Direct
35	N	N	9	1	8	Indirect
37 [2]	UNK	Y	UNK	UNK	UNK	Indirect
38 [2]	UNK	Y	UNK	UNK	UNK	Indirect
39a	N	N	3	0	0	Direct
39b [2]	UNK	N	UNK	UNK	UNK	Direct
41a [2]	UNK	N	UNK	UNK	UNK	Direct
41b [2]	UNK	N	UNK	UNK	UNK	Direct
41c	Y	N	5	7	2	Direct
49	N	N	0	0	1	Direct
50	Y	N	16	7	7	Direct
88 [2]	UNK	Y	UNK	UNK	UNK	Indirect
89 [2]	UNK	Y	UNK	UNK	UNK	Indirect
92 [2]	N	Y	10	15	8	Indirect
93 [2]	UNK	Y	UNK	UNK	UNK	Indirect
94 [2]	UNK	Y	UNK	UNK	UNK	Indirect
95 [2]	UNK	Y	UNK	UNK	UNK	Indirect
Indirect total			19	16	16	
Direct total			228	54	69	
Overall total			247	70	85	

[1] No property access.

[2] UNK = Unknown because shrubs covered in grapevines or poison oak and cannot count stems or see exit holes.

Table E.2-3. Summary of Stem Counts for All Elderberry Shrubs in Alternative 2

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter)			Effect on Shrub (Direct or Indirect)
			1–3 Inches	3–5 Inches	>5 Inches	
3	Y	Y	13	5	5	Direct
4	N	Y	19	2	2	Direct
5	N	Y	18	0	1	Direct
6	N	Y	60	5	9	Direct
7	N	Y	33	10	18	Direct
8	N	Y	8	5	2	Direct
9	N	Y	30	2	8	Direct
10	Y	Y	8	4	2	Indirect
11 [1]	UNK	Y	UNK	UNK	UNK	Indirect
12 [1]	UNK	Y	UNK	UNK	UNK	Direct
13 [1]	UNK	Y	UNK	UNK	UNK	Direct
14 [1]	UNK	Y	UNK	UNK	UNK	Direct
15 [1]	UNK	Y	UNK	UNK	UNK	Indirect
30	Y	Y	0	0	1	Indirect
31 [2]	UNK	N	UNK	UNK	UNK	Direct
32	N	N	3	1	1	Direct
33 [2]	UNK	N	UNK	UNK	UNK	Direct
34	Y	N	12	6	10	Direct
35	N	N	9	1	8	Direct
36	N	Y	0	0	1	Direct
37 [1]	UNK	Y	UNK	UNK	UNK	Direct
38 [1]	UNK	Y	UNK	UNK	UNK	Direct
39a	N	N	3	0	0	Direct
39b [1]	UNK	N	UNK	UNK	UNK	Direct
41a [1]	UNK	N	UNK	UNK	UNK	Direct
41b [1]	UNK	N	UNK	UNK	UNK	Direct
41c	Y	N	5	7	2	Direct
49	N	N	0	0	1	Direct
50	Y	N	16	7	7	Direct
52	Y	Y	6	1	1	Indirect
53	Y	N	29	17	3	Indirect
54	N	Y	17	1	0	Indirect
75	N	Y	47	5	1	Indirect
77	Y	Y	11	3	0	Indirect
84 [1]	UNK	Y	UNK	UNK	UNK	Indirect
85 [1]	UNK	Y	UNK	UNK	UNK	Indirect
88 [1]	UNK	Y	UNK	UNK	UNK	Direct
89 [1]	UNK	Y	UNK	UNK	UNK	Direct
90 [1]	UNK	Y	UNK	UNK	UNK	Direct
91[1]	UNK	Y	UNK	UNK	UNK	Direct
92	N	Y	10	15	8	Direct
93 [1]	UNK	Y	UNK	UNK	UNK	Direct
94 [1]	UNK	Y	UNK	UNK	UNK	Direct
95 [1]	UNK	Y	UNK	UNK	UNK	Direct
96[1]	UNK	Y	UNK	UNK	UNK	Direct
97	Y	Y	3	0	1	Direct
Indirect total			118	31	8	
Direct total			242	66	84	
Overall total			360	97	92	

[1] UNK = Unknown because shrubs covered in grapevines or poison oak and cannot count stems or see exit holes.
[2] No property access.

Table E.2-4. Summary of Stem Counts for All Elderberry Shrubs in Alternative 3

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter)			Effect on Shrub (Direct or Indirect)
			1–3 Inches	3–5 Inches	>5 Inches	
3	Y	Y	13	5	5	Direct
4	N	Y	19	2	2	Direct
5	N	Y	18	0	1	Direct
6	N	Y	60	5	9	Direct
7	N	Y	33	10	18	Direct
8	N	Y	8	5	2	Direct
9	N	Y	30	2	8	Direct
10	Y	Y	8	4	2	Direct
11 [1]	UNK	Y	UNK	UNK	UNK	Direct
12 [1]	UNK	Y	UNK	UNK	UNK	Direct
13 [1]	UNK	Y	UNK	UNK	UNK	Direct
14 [1]	UNK	Y	UNK	UNK	UNK	Direct
15 [1]	UNK	Y	UNK	UNK	UNK	Direct
30	Y	Y	0	0	1	Indirect
31 [2]	UNK	N	UNK	UNK	UNK	Direct
32	N	N	3	1	1	Direct
33 [2]	UNK	N	UNK	UNK	UNK	Direct
34	Y	N	12	6	10	Direct
35	N	N	9	1	8	Indirect
36	N	Y	0	0	1	Indirect
41a [1]	UNK	N	UNK	UNK	UNK	Direct
41b [1]	UNK	N	UNK	UNK	UNK	Direct
41c	Y	N	5	7	2	Direct
49	N	N	16	7	7	Direct
50	Y	N	0	0	1	Direct
88 [1]	UNK	Y	UNK	UNK	UNK	Indirect
89 [1]	UNK	Y	UNK	UNK	UNK	Indirect
90 [1]	UNK	Y	UNK	UNK	UNK	Indirect
Indirect Total			9	1	10	
Direct Total			225	54	68	
Overall Total			234	55	78	

[1] UNK = Unknown because shrubs covered in grapevines or poison oak and cannot count stems or see exit holes.

[2] No property access.

Table E.2-5. Summary of Stem Counts for All Elderberry Shrubs in Alternative 4

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter)			Effect on Shrub (Direct or Indirect)
			1–3 Inches	3–5 Inches	>5 Inches	
2	Y	Y	0	1	1	Indirect
3	Y	Y	13	5	5	Direct
4	N	Y	19	2	2	Direct
5	N	Y	18	0	1	Direct
6	N	Y	60	5	9	Direct
7	N	Y	33	10	18	Direct
8	N	Y	8	5	2	Direct
9	N	Y	30	2	8	Direct
10	Y	Y	8	4	2	Indirect
30	Y	Y	0	0	1	Indirect
31 [2]	UNK	N-	UNK	UNK	UNK	Direct
32	N	N	3	1	1	Direct
33 [2]	UNK	N	UNK	UNK	UNK	Direct
34	Y	N	12	6	10	Direct
37 [1]	UNK	Y	UNK	UNK	UNK	Indirect
38 [1]	UNK	Y	UNK	UNK	UNK	Indirect
39a	N	N	3	0	0	Direct
39b [1]	UNK	N	UNK	UNK	UNK	Direct
41a [1]	UNK	N	UNK	UNK	UNK	Direct
41b [1]	UNK	N	UNK	UNK	UNK	Direct
41c	Y	N	5	7	2	Direct
47	Y	Y	42	8	2	Indirect
49	N	N	16	7	7	Direct
50	Y	N	0	0	1	Direct
52	Y	Y	6	1	1	Indirect
53	Y	N	29	17	3	Direct
54	N	Y	17	1	0	Indirect
75	N	Y	47	5	1	Indirect
76	Y	Y	12	3	2	Indirect
77	Y	Y	11	3	0	Indirect
78	Y	Y	13	3	9	Indirect
79	Y	Y	9	4	5	Indirect
80 [1]	UNK	Y	UNK	UNK	UNK	Indirect
81 [1]	UNK	Y	UNK	UNK	UNK	Indirect
82 [1]	UNK	Y	UNK	UNK	UNK	Indirect
84 [1]	UNK	Y	UNK	UNK	UNK	Indirect
85 [1]	UNK	Y	UNK	UNK	UNK	Indirect
86 [1]	UNK	Y	UNK	UNK	UNK	Indirect
87 [1]	UNK	Y	UNK	UNK	UNK	Indirect
92	N	Y	10	15	8	Indirect
93 [1]	UNK	Y	UNK	UNK	UNK	Indirect
94 [1]	UNK	Y	UNK	UNK	UNK	Indirect
95 [1]	UNK	Y	UNK	UNK	UNK	Indirect
97	Y	Y	3	0	1	Direct
98	UNK	Y	4	0	0	Indirect
100	Y	Y	8	2	0	Indirect
Indirect Total			187	50	32	
Direct Total			252	67	70	
Overall Total			439	117	102	

[1] UNK = Unknown because shrubs covered in grapevines or poison oak and can't count stems or see exit holes.
[2] No property access.

Table E.2-6. Summary of Stem Counts for All Elderberry Shrubs in Alternative 5

Shrub	Presence of Exit Holes?	Riparian Habitat?	Number of Stems (by Diameter)			Effect on Shrub (Direct or Indirect)
			1–3 Inches	3–5 Inches	>5 Inches	
2	Y	Y	0	1	1	Indirect
3	Y	Y	13	5	5	Direct
4	N	Y	19	2	2	Direct
5	N	Y	18	0	1	Direct
6	N	Y	60	5	9	Direct
7	N	Y	33	10	18	Direct
8	N	Y	8	5	2	Direct
9	N	Y	30	2	8	Direct
10	Y	Y	8	4	2	Indirect
30	Y	Y	0	0	1	Indirect
31 [2]	UNK	N	UNK	UNK	UNK	Direct
32	N	N	3	1	1	Direct
33 [2]	UNK	N	UNK	UNK	UNK	Direct
37 [1]	UNK	Y	UNK	UNK	UNK	Indirect
38 [1]	UNK	Y	UNK	UNK	UNK	Indirect
39a	N	N	3	0	0	Direct
39b [1]	UNK	N	UNK	UNK	UNK	Direct
41a [1]	UNK	N	UNK	UNK	UNK	Direct
41b [1]	UNK	N	UNK	UNK	UNK	Direct
41c	Y	N	5	7	2	Direct
47	Y	Y	42	8	2	Indirect
49	N	N	0	0	1	Direct
50	Y	N	16	7	7	Direct
52	Y	Y	6	1	1	Indirect
53	Y	N	29	17	3	Direct
54	N	Y	17	1	0	Indirect
75	N	Y	47	5	1	Indirect
76	Y	Y	12	3	2	Indirect
77	Y	Y	11	3	0	Indirect
78	Y	Y	13	3	9	Indirect
79	Y	Y	9	4	5	Indirect
80 [1]	UNK	Y	UNK	UNK	UNK	Indirect
81 [1]	UNK	Y	UNK	UNK	UNK	Indirect
82 [1]	UNK	Y	UNK	UNK	UNK	Indirect
84 [1]	UNK	Y	UNK	UNK	UNK	Indirect
85 [1]	UNK	Y	UNK	UNK	UNK	Indirect
86 [1]	UNK	Y	UNK	UNK	UNK	Indirect
87 [1]	UNK	Y	UNK	UNK	UNK	Indirect
92	N	Y	10	15	8	Indirect
93 [1]	UNK	Y	UNK	UNK	UNK	Indirect
94 [1]	UNK	Y	UNK	UNK	UNK	Indirect
95 [1]	UNK	Y	UNK	UNK	UNK	Indirect
97	Y	Y	3	0	1	Direct
98	UNK	Y	4	0	0	Indirect
100	Y	Y	8	2	0	Indirect
Indirect Total			187	50	32	
Direct Total			240	61	60	
Overall Total			380	111	92	

[1] UNK = Unknown because shrubs covered in grapevines or poison oak and cannot count stems or see exit holes.
[2] No property access.

E.2.2 Giant Garter Snake

The giant garter snake is listed as threatened under the ESA and the California Endangered Species Act (CESA). The giant garter snake is the largest garter snake, reaching a total length of 64 inches or more. Dorsal background coloration varies from brownish to olive with a checkered pattern of black spots, separated by a yellow dorsal stripe and two light-colored lateral stripes. (U.S. Fish and Wildlife Service 1999b.)

Giant garter snakes are endemic to wetlands in the Sacramento and San Joaquin Valleys and inhabit marshes, sloughs, ponds, small lakes, low-gradient streams and other waterways, and agricultural wetlands such as irrigation and drainage canals and rice fields, as well as the adjacent uplands. Essential habitat components are:

- Adequate water during the species' active season (early spring through mid-fall) to provide food and cover.
- Emergent herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season.
- Upland habitat with grassy banks and openings in waterside vegetation for basking.
- Higher-elevation uplands for cover and refuge from floodwaters during the dormant season in winter. (U.S. Fish and Wildlife Service 1999b.)

The giant garter snake is extremely aquatic and rarely found away from water. Giant garter snakes actively forage in the water and retreat to water to escape from predators and when disturbed. The predominant prey species are crayfish, carp (*Cyprinus carpio*), mosquitofish (*Gambusia affinis*), bullfrogs, and Pacific tree frogs. Giant garter snakes are typically absent from larger rivers and other water bodies that support introduced populations of large predatory fish and from wetlands with sand, gravel, or rock substrates. Riparian woodlands do not typically provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations. (U.S. Fish and Wildlife Service 1999b.)

Giant garter snakes hibernate in small mammal burrows and other soil crevices located near aquatic habitat above prevailing flood levels throughout the winter months (November until early spring). They typically select burrows with sunny exposure along south- and west-facing slopes. Giant garter snakes also use burrows as refuge from extreme heat during their active period. The U.S. Geological Survey (USGS) Biological Resources Division has documented giant garter snakes using burrows in summer as much as 165 feet away from the marsh edge. Overwintering giant garter snakes have been documented using burrows as far as 820 feet from the edge of marsh habitat (U.S. Fish and Wildlife Service 1999b).

E.2.2.1 Status in the Project Area

There are no CNDDB (2013) records for giant garter snakes in the project area, although there are 55 occurrences within 10 miles of the project area. No giant garter snakes were observed during the April and May 2011 reconnaissance-level surveys, but this does not eliminate the possibility that they inhabit the site. The project area is within the current range of giant garter snake (U.S. Fish and Wildlife Service 1999b). The closest reported occurrence of giant garter snake is approximately 3 miles west of the project area in the Yolo Bypass (California Natural Diversity Database 2013).

In the project area, the Main Drain and several agricultural ditches, Bees Lakes, and emergent marshes provide suitable aquatic habitat for giant garter snake (Plate 3.10-1 in the EIS/EIR). Water is pumped into the Main Canal from the Sacramento River and then flows into several adjoining irrigation ditches that are used to irrigate agricultural fields in the project area. The flow of water through these ditches is variable and depends on the need for irrigation water. Most of the canals in the project area were wet at the time of the April and May 2011 surveys. The supply of irrigation water to many of these ditches was terminated after the land was recently sold. Most of the active fields in the project area during the spring 2011 survey were planted in wheat that does not require irrigation.

Upland basking and overwintering habitat is also present in the project area. Upland habitat consists of nonnative annual grasslands along the irrigation ditches and adjacent fallow agricultural lands within 200 feet of suitable aquatic habitat.

E.2.3 Western Pond Turtle

The western pond turtle is a California species of special concern. The western pond turtle is the only abundant turtle native to California (California Department of Fish and Game 2005). It was found historically in most Pacific slope drainages between the Oregon and Mexican borders. It is still found in suitable habitats west of the Sierra-Cascade crest (Jennings and Hayes 1994).

Western pond turtles require some slow-water aquatic habitat and are uncommon in high-gradient streams (Jennings and Hayes 1994). The banks of inhabited waters usually have thick vegetation, but basking sites such as logs, rocks, or open banks also must be present (California Department of Fish and Game 2005). Depending on the latitude, elevation, and habitat type, the western pond turtle may become inactive over winter or remain active year-round. Nest sites typically are found on slopes that are unshaded and have high clay or silt composition (Jennings and Hayes 1994). Eggs are laid from March to August, depending on local conditions, and incubation lasts from 73 to 80 days. Western pond turtles are omnivorous and feed on aquatic plant material, aquatic invertebrates, fishes, frogs, and even carrion (California Department of Fish and Game 2005).

E.2.3.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. There are six CNDDB (2013) records for western pond turtle occurrences within a 10-mile radius of the project area. Fifteen western pond turtles were observed during the 2011 field survey in Bees Lakes in the project area (Plate 3.10-1 in the EIS/EIR). Up to 38 basking turtles were observed in Bees Lakes during the March 26, 2013 survey. The 38 turtles were a mixed group of western pond turtles (4) and red-eared sliders (6) with the 28 remaining turtles unidentified because of thick coatings of vegetation on their shells and heads. Red-eared sliders are a non-native species which may outcompete for basking sites and food sources with pond turtles, and may also spread diseases. (Holland 1994). Open water (including agricultural ditches and ponds) and emergent wetland habitats provide suitable aquatic habitat; annual grassland, riparian forest, and other upland areas adjacent to aquatic habitats provide potential winter hibernacula and nesting habitat.

E.2.4 Swainson's Hawk

Swainson's hawks are protected under the Migratory Bird Treaty Act (MBTA) and are state-listed as threatened. Swainson's hawks inhabit grasslands, sage-steppe plains, and agricultural regions of western North America during the breeding season and winter in grassland and agricultural regions from central Mexico to southern South America (England et al. 1997).

In California, the nesting distribution includes the Sacramento and San Joaquin Valleys, the Great Basin sage-steppe communities and associated agricultural valleys in extreme northeastern California, isolated valleys in the Sierra Nevada in Mono and Inyo Counties, and limited areas of the Mojave Desert region (California Department of Fish and Game 1994).

Since 1980, based on nesting records alone, populations in California appear relatively stable. However, continued agricultural conversion and practices, urban development, and water development have reduced available habitat for Swainson's hawks throughout their range in California; this habitat reduction potentially could result in a long-term declining trend. The status of populations, particularly with respect to juvenile survivorship, remains unclear.

In California, Swainson's hawk habitat generally consists of large, flat, open, undeveloped landscapes that include suitable grassland or agricultural foraging habitat and sparsely distributed trees for nesting (England et al. 1997). Foraging habitat includes open fields and pastures. Preferred foraging habitats for Swainson's hawk include alfalfa fields, fallow fields, low-growing row or field crops, rice fields during the nonflooded period, and cereal grain crops. Prey species include ground squirrels, California voles, pocket gophers, deer mice, reptiles, and insects (Swainson's Hawk Technical Advisory Committee2000; England et al. 1997).

Swainson's hawks usually nest in large native trees such as valley oak, cottonwood, and willows, although nonnative trees such as eucalyptus (*Eucalyptus* spp.) occasionally are used. Nests occur in riparian woodlands, roadside trees, trees along field borders, isolated trees and small groves, trees in windbreaks, and trees on the edges of remnant oak woodlands. In some locales, urban nest sites have been recorded. The breeding season is typically March to August (England et al. 1997).

E.2.4.1 Status in the Project Area

There are 10 previously recorded nest locations in the project area and an additional 29 nests within 1 mile (Yolo Natural Heritage Program 2007 and California Natural Diversity Database 2013) (Plate 3.10-1 in the EIS/EIR). An additional 56 nests are within 5 miles and 147 nests are within 10 miles of the project area (California Natural Diversity Database 2013). Although Swainson's hawks have high site fidelity to a particular area (nesting territory), they will often use different nests from year to year. Therefore, not all of the documented nest sites would be active in a given year, making it difficult to determine exact population numbers in the project area. During April and May 2013 surveys, four active nests were observed within the project area. Several adult Swainson's hawks were observed foraging in the project area during the reconnaissance surveys in April and May 2011 and 2013. Large trees located in and adjacent to the project area provide suitable nesting habitat, and agricultural lands and grasslands provide suitable foraging habitat.

E.2.5 Western Burrowing Owl

Western burrowing owls are a California species of special concern and are protected under the MBTA. Western burrowing owls were formerly a common permanent resident throughout much of California, but population declines became noticeable by the 1940s and have continued to the present. Farming has taken a major toll on western burrowing owl populations and their habitat by destroying nesting burrows and exposing breeders and their young to the toxic effects of pesticides. (Haug et al. 1993.)

Western burrowing owls prefer open, dry, short grassland habitats with few trees and are often associated with burrowing mammals such as California ground squirrels. They occupy burrows typically abandoned by ground squirrels or other burrowing mammals but also may use artificial burrows such as abandoned pipes, culverts, and debris piles (California Department of Fish and Game 2012; Haug et al. 1993). Prey includes arthropods, amphibians, small reptiles, small mammals, and birds, particularly horned larks (Haug et al. 1993).

The breeding season usually extends from late February through August. Western burrowing owls often nest in roadside embankments, on levees, and along irrigation canals. This species is more diurnal than most owls and often can be observed during the day standing outside the entrance to its burrow. (Haug et al. 1993.)

E.2.5.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. There are 68 occurrences within a 10-mile radius of the project area CNDDB (2013). The closest of these include nesting records located along the DWSC and the northwest corner of Sacramento Executive Airport. The ruderal fields, levees, and irrigation ditches provide suitable nesting habitat where ground squirrel burrows are present, and open areas near suitable nesting habitat provide suitable foraging habitat.

E.2.6 White-Tailed Kite

The white-tailed kite is protected under the MBTA and is a fully protected species under the California Fish and Game Code (CFGC). White-tailed kites were threatened with extinction in North America during the early twentieth century. Populations recovered throughout the species' range in the United States from small populations that survived in California, Texas, and Florida. However, since the 1980s, white-tailed kite populations have been declining, apparently because of loss of habitat and increased disturbance of nests. (Dunk 1995.)

The breeding season generally extends from early February through early August. White-tailed kites usually nest in large native trees, although nonnative trees also are used occasionally. Nest trees are generally at the edge of wooded habitat next to open fields. Large trees in developed areas also may be used, although the trees need to be close to open fields for foraging (Dunk 1995). White-tailed kites feed primarily on small mammals, including voles (*Microtus* sp.), pocket mice (*Perognathus* sp.), and western harvest mice (*Reithrodontomys megalotis*).

E.2.6.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. CNDDB (2013) records indicate 20 white-tailed kite nesting occurrences within 10 miles of the project area. Large trees in and adjacent to the project area provide suitable nesting habitat, and agricultural fields and other open areas provide suitable foraging habitat. A white-tailed kite was observed perched on a tree in the project area during the March 26, 2013 field survey.

E.2.7 Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is designated as a California species of special concern. Loggerhead shrikes are a widespread species in North America, occurring from the southern Canadian provinces across most of the United States into Mexico (Yosef 1996). In California, loggerhead shrikes occur in open habitats with scattered shrubs, trees, posts, fences, utility lines, and other perches. Habitats include valley foothill forests, pinyon-juniper, desert riparian, and Joshua tree habitats (California Department of Fish and Game 2005). Loggerhead shrikes are adaptable to urban environments as long as preferred habitat characteristics and abundant prey supplies are present (Yosef 1996).

The loggerhead shrike is a predatory songbird. As opportunistic predators, loggerhead shrikes feed on a wide variety of prey, including insects, small mammals and birds, reptiles, amphibians, and occasionally carrion. Prey is often impaled on sharp objects such as thorns and barbed wire fences (Yosef 1996). Nesting habitat includes dense-foliage shrubs and trees near open habitats (California Department of Fish and Game 2005).

E.2.7.1 Status in the Project Area

CNDDB (2013) records do not indicate any loggerhead shrike occurrences within 10 miles of the project area. Shrikes could nest in riparian and valley oak woodlands as well as in landscape shrubs throughout the project area.

E.2.8 Tricolored Blackbird

The tricolored blackbird is a California species of special concern. In California, active breeding colonies occur in 46 California counties, with the largest colonies in the Central Valley. In the Central Valley, breeding extends east into the foothills of the Sierra Nevada. Historically, most California colonies have been located in the Sacramento and San Joaquin Valleys, but habitat loss has reduced breeding considerably in this area in recent years (Beedy and Hamilton 1999). Tricolored blackbirds have three basic requirements for selecting their breeding colonies: open, accessible water; a protected nesting substrate, including either flooded vegetation or thorny/spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony. They often change their nest locations from year to year. An increasing percentage of tricolored blackbirds are using Himalayan blackberry for nesting habitat (Beedy and Hamilton 1999).

Suitable breeding habitats within the Central Valley have been found to include emergent marsh areas with tules or cattail and upland habitats consisting of thistle, nettle, blackberry, wheat, and

other shrubby upland substrates (Meese 2006). Foraging habitats in all seasons include annual grasslands, wet and dry vernal pools and other seasonal wetlands, agricultural fields (e.g., large tracts of alfalfa with continuous mowing schedules and recently tilled fields), cattle feedlots, and dairies. Tricolored blackbirds also occasionally forage in riparian scrub habitats and along marsh borders. Weed-free row crops and intensively managed vineyards and orchards do not serve as regular forage sites (Beedy and Hamilton 1999).

E.2.8.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. CNDDB (2013) indicated 13 nesting sites within a 10-mile radius. Emergent wetlands and Himalayan blackberry brambles (which occur throughout the project area) provide suitable nesting habitat, and agricultural fields and annual grasslands provide suitable foraging habitat.

E.2.9 Purple Martin

Purple martin is a California species of special concern. This species breeds locally along eastern slopes of the Cascade Mountains of California south to extreme southwestern California. The species winters in South America in lowlands east of the Andes south to northern Argentina (rarely) and southern Brazil. Purple martin is the largest swallow in North America and among the largest in the world. These martins inhabit montane forest or Pacific lowlands, restricted to areas with dead snags containing woodpecker holes, generally patchy and local in occurrence. This species is reported typically to avoid deserts and grasslands. (Brown 1997.)

Purple martin is a diurnal, aerial feeder that feeds on insects at higher elevations than other swallows, sometimes up to 490 feet. Because of the height of foraging, individuals rarely are observed foraging, with the exception being late afternoons and near dusk when birds feed low and close to nest sites. The species presumably ranges over areas immediately surrounding the nest site, although there is no information on typical travel distance while foraging. Cold, rainy weather in spring forces purple martins, especially migrants, to feed low over ponds and lakes, apparently in pursuit of aquatic insects along the water surface. (Brown 1997.)

E.2.9.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. There are 10 occurrences reported within a 10-mile radius of colonies nesting under freeway or street overpasses. Suitable nesting habitat for this species occurs in the riparian forest and other woodland and forest areas throughout the project area.

E.2.10 Bank Swallow

The bank swallow is a state-listed threatened species. In California, bank swallow is a regular breeder from Monterey County to San Francisco County, and in northern California in Siskiyou, Shasta, and Lassen Counties and along the Sacramento River from Shasta County south to Yolo County. Bank swallows nest in erodible soils on vertical or near-vertical banks and bluffs in lowland areas dominated by rivers, streams, lakes, and oceans. Based on the often ephemeral nature of

nesting areas, bank swallow has low nest site fidelity. Foraging habitats surrounding nesting colony sites include wetlands, open water, grasslands, riparian forests, agricultural lands, shrublands, and occasionally upland woodlands. (Garrison 1999.)

Bank swallow is an aerial feeder from dawn to dusk that takes flying or jumping insects almost exclusively on the wing. The species is reported occasionally to eat terrestrial and aquatic insects or larvae and less often to consume vegetable matter. Bank swallow may feed on the ground where high concentrations of suitable insect prey are present. (Garrison 1999.)

E.2.10.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. There is one nesting record for this species approximately 5 miles from the project area along the American River. Additionally, this species is recorded to nest approximately 12 miles north of the project area along the Sacramento River. In the project area, suitable breeding habitat includes areas along the Sacramento River where banks are vertical to near-vertical.

E.2.11 Northern Harrier

The northern harrier is a California species of special concern and is protected under the MBTA and CFGC 3503 and 3503.5. The northern harrier is a medium-sized hawk raptor of upland grasslands and fresh- and saltwater marshes. In California, northern harriers are a permanent resident of the northeastern plateau, coastal areas, and Central Valley (Macwhirter and Bildstein 1996). Northern harriers breed in California in the Central Valley and Sierra Nevada (California Department of Fish and Game 2005).

Northern harriers frequent meadows, grasslands, desert sinks, open rangelands, and fresh- and saltwater emergent wetlands; they seldom are found associated with wooded habitats. Harriers feed mostly on voles and other small mammals, birds, frogs, small reptiles, crustaceans, insects, and rarely on fish (California Department of Fish and Game 2005). Harriers mostly nest in emergent wetland or along rivers or lakes but may nest in grasslands, grain fields, or sagebrush flats several miles from water (Macwhirter and Bildstein 1996). The nest is built of a large mound of sticks on wet areas and a smaller cup of grasses on dry sites.

E.2.11.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species nesting in the project area. Similarly, CNDDB (2013) records do not indicate any nesting northern harrier occurrences within 10 miles of the project area. Non-orchard agricultural fields and annual grasslands provide suitable foraging habitat, and the annual grassland, irrigated pasture, and emergent wetland habitat in the project area provide suitable nesting and foraging habitat.

E.2.12 Hoary Bat

The hoary bat is a California species of special concern and has been classified as moderate priority by the Western Bat Working Group (WBWG). The *moderate priority* designation indicates a level of concern that should warrant closer evaluation, more research, and conservation actions for the

species. Hoary bats are found primarily in forested habitats, including riparian forests, and may occur in park and garden settings in urban areas (Brown and Pierson 1996). Habitats that are suitable for providing maternity roosts include all woodlands that have medium- to large-sized trees with dense foliage. Females and young tend to roost at higher sites in trees (California Department of Fish and Game 2005).

E.2.12.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. CNDDB (2013) records indicate two hoary bat observations within 10 miles of the project area. Suitable habitat in the project area occurs in riparian forests and other forests and woodlands.

E.2.13 Western Red Bat

Western red bat is a California species of special concern and a WBWG high priority species. The *high priority* designation is for species at high risk of imperilment. The western red bat occurs throughout much of California at lower elevations. It is found primarily in riparian and wooded habitats but also occurs seasonally in urban areas (Brown and Pierson 1996). Western red bats roost in the foliage of trees that often are located on the edge of habitats adjacent to streams, fields, or urban areas. This species breeds in August and September, and young are born in May through July (Zeiner et al. 1990b).

E.2.13.1 Status in the Project Area

There are no occurrences of this species in the project area or within a 10-mile radius (CNDDB 2013). There are recent acoustical records for western red bat heard during maternity season in riparian habitat along the Sacramento River in West Sacramento (ICF International 2011). Suitable habitat in the project area occurs in riparian forests and other forests and woodlands.

E.2.14 Pallid Bat

The pallid bat is a California species of special concern and is designated as high priority by the WBWG. Pallid bats are found in a variety of habitats but are associated particularly with oak woodlands, ponderosa pine, redwood, and sequoia habitats in central and northern California. Pallid bats have a high reliance on trees for day roosts. (Brown and Pierson 1996.)

E.2.14.1 Status in the Project Area

There are no CNDDB (2013) occurrences of this species in the project area. CNDDB (2013) records indicate one pallid bat observation within 10 miles of the project area. Suitable habitat in the project area occurs in riparian forests and other forests and woodland.

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Appendix E.3

USFWS, CNPS, and CNDDB Species Lists

United States Department of the Interior

Department of the Interior logo

FISH AND WILDLIFE SERVICE

Fish & Wildlife Service logo

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

July 15, 2011

Document Number: 110715125143

Stephanie Myers
ICF International
630 K Street
Sacramento, CA 95814

Subject: Species List for Southport Levee Project

Dear: Ms. Myers

We are sending this official species list in response to your July 15, 2011 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

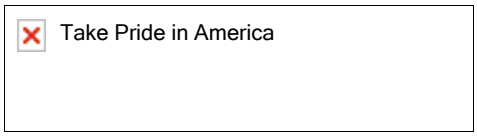
Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

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 October 13, 2011.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at file:///U:/branches.htm.

Endangered Species Division


Take Pride in America

These buttons will not appear on your list.

Revise Selection

Print this page

Print species list before going on to letter.

Make Official Letter

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: 110715010311

Database Last Updated: April 29, 2010

No quad species lists requested.

County Lists

Yolo 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
  - 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

- Strix occidentalis caurina
  - northern spotted owl (T)

Plants

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

- Neostapfia colusana

- Colusa grass (T)
- Critical habitat, Colusa grass (X)

- Tuctoria mucronata
  - Critical habitat, Solano grass (=Crampton's tuctoria) (X)
  - Solano grass (=Crampton's tuctoria) (E)

Candidate Species

Birds

- Coccyzus americanus occidentalis
  - Western yellow-billed cuckoo (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 October 13, 2011.

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 SACRAMENTO WEST (513D) U.S.G.S. 7 1/2 Minute Quad

Database last updated: September 18, 2011
Report Date: September 25, 2012

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
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)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Vireo bellii pusillus
Least Bell's vireo (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

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

January 3, 2013

Document Number: 130103032349

Stephanie Myers
ICF International
630 K Street, Suite 400
Sacramento, CA 95814

Subject: Species List for Southport Sacramento River Early Implementation Project

Dear: Ms. Myers

We are sending this official species list in response to your January 3, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

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 April 03, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

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: 130103032349

Database Last Updated: September 18, 2011

No quad species lists requested.

County Lists

Yolo 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)

Elaphrus viridis
delta green ground beetle (T)

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

Syncaris pacifica
California freshwater 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)
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Oncorhynchus tshawytscha
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Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
California red-legged frog (T)

Reptiles

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giant garter snake (T)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Strix occidentalis caurina
northern spotted owl (T)

Vireo bellii pusillus
Least Bell's vireo (E)

Plants

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

Neostapfia colusana
Colusa grass (T)
Critical habitat, Colusa grass (X)

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

Tuctoria mucronata
Critical habitat, Solano grass (=Crampton's tuctoria) (X)
Solano grass (=Crampton's tuctoria) (E)

Candidate Species

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)

Key:

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Inventory of Rare and Endangered Plants

v7-11jun 6-9-11

Status: search results - Wed, Jul. 6, 2011, 16:41 b

{QUADS_123} =~ m/513D|497A|497B|512B|512C|496B|513A|513B|513C/

Search

Tip: Want to search by county? Try the **county index**.[all tips and help.][search history]

Your Quad Selection: Sacramento West (513D) 3812155, Clarksburg (497A) 3812145, Saxon (497B) 3812146, Rio Linda (512B) 3812164, Sacramento East (512C) 3812154, Florin (496B) 3812144, Taylor Monument (513A) 3812165, Grays Bend (513B) 3812166, Davis (513C) 3812156

Hits 1 to 19 of 19

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	☐	1	**Astragalus tener var. ferrisiae**	Ferris' milk-vetch	Fabaceae	List 1B.1
	☐	1	**Astragalus tener var. tener**	alkali milk-vetch	Fabaceae	List 1B.2
	☐	1	**Atriplex cordulata**	heartscale	Chenopodiaceae	List 1B.2
	☐	1	**Atriplex depressa**	brittlescale	Chenopodiaceae	List 1B.2
	☐	1	**Atriplex joaquiniana**	San Joaquin spearscale	Chenopodiaceae	List 1B.2
	☐	1	**Chloropyron palmatum**	palmate-bracted bird's-beak	Orobanchaceae	List 1B.1
	☐	1	**Downingia pusilla**	dwarf downingia	Campanulaceae	List 2.2

	☐	1	**Gratiola heterosepala**	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
	☐	1	**Hibiscus lasiocarpos var. occidentalis**	woolly rose-mallow	Malvaceae	List 1B.2
	☐	1	**Juglans hindsii**	Northern California black walnut	Juglandaceae	List 1B.1
	☐	1	**Legenere limosa**	legenere	Campanulaceae	List 1B.1
	☐	1	**Lepidium latipes var. heckardii**	Heckard's pepper-grass	Brassicaceae	List 1B.2
	☐	1	**Lilaeopsis masonii**	Mason's lilaeopsis	Apiaceae	List 1B.1
	☐	1	**Myosurus minimus ssp. apus**	little mousetail	Ranunculaceae	List 3.1
	☐	1	**Navarretia leucocephala ssp. bakeri**	Baker's navarretia	Polemoniaceae	List 1B.1
	☐	1	**Neostapfia colusana**	Colusa grass	Poaceae	List 1B.1
	☐	1	**Sagittaria sanfordii**	Sanford's arrowhead	Alismataceae	List 1B.2
	☐	1	**Symphyotrichum lentum**	Suisun Marsh aster	Asteraceae	List 1B.2
	☐	1	**Tuctoria mucronata**	Crampton's tuctoria or Solano grass	Poaceae	List 1B.1

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

No more hits.

CNPS Inventory of Rare and Endangered Plants

Status: Plant Press Manager window with 23 items - Tue, Sep. 25, 2012 19:04 c

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items | check all | check none

open	save	scientific	common	family	CNPS
	☑	**Astragalus tener var. ferrisiae**	Ferris' milk-vetch	Fabaceae	List 1B.1
	☑	**Astragalus tener var. tener**	alkali milk-vetch	Fabaceae	List 1B.2
	☑	**Atriplex cordulata var. cordulata**	heartscale	Chenopodiaceae	List 1B.2
	☑	**Atriplex depressa**	brittlescale	Chenopodiaceae	List 1B.2
	☑	**Atriplex joaquinana**	San Joaquin spearscale	Chenopodiaceae	List 1B.2
	☑	**Carex comosa**	bristly sedge	Cyperaceae	List 2.1
	☑	**Chloropyron palmatum**	palmate-bracted bird's-beak	Orobanchaceae	List 1B.1
	☑	**Cuscuta obtusiflora var. glandulosa**	Peruvian dodder	Convolvulaceae	List 2.2
	☑	**Downingia pusilla**	dwarf downingia	Campanulaceae	List 2.2
	☑	**Gratiola heterosepala**	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
	☑	**Hibiscus lasiocarpos var. occidentalis**	woolly rose-mallow	Malvaceae	List 1B.2
	☑	**Juglans hindsii**	Northern California black walnut	Juglandaceae	List 1B.1
	☑	**Legenere limosa**	legenere	Campanulaceae	List 1B.1
	☑	**Lepidium latipes var. heckardii**	Heckard's pepper-grass	Brassicaceae	List 1B.2
	☑	**Lilaeopsis masonii**	Mason's lilaeopsis	Apiaceae	List 1B.1
	☑	**Myosurus minimus ssp. apus**	little mousetail	Ranunculaceae	List 3.1
	☑	**Navarretia leucocephala ssp. bakeri**	Baker's navarretia	Polemoniaceae	List 1B.1
	☑	**Neostapfia colusana**	Colusa grass	Poaceae	List 1B.1
	☑	**Plagiobothrys hystriculus**	bearded popcorn-flower	Boraginaceae	List 1B.1
	☑	**Sagittaria sanfordii**	Sanford's arrowhead	Alismataceae	List 1B.2
	☑	**Symphyotrichum lentum**	Suisun Marsh aster	Asteraceae	List 1B.2
	☑	**Trifolium hydrophilum**	saline clover	Fabaceae	List 1B.2

	☑	**Tuctoria mucronata** 	Crampton's tuctoria or Solano grass	Poaceae	List 1B.1

DELETE unchecked items | check all | check none

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	***Accipiter cooperii*** Cooper's hawk	ABNKC12040			G5	S3	
2	***Agelaius tricolor*** tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	***Ammodramus savannarum*** grasshopper sparrow	ABPBXA0020			G5	S2	SC
4	***Antrozous pallidus*** pallid bat	AMACC10010			G5	S3	SC
5	***Archoplites interruptus*** Sacramento perch	AFCQB07010			G3	S1	SC
6	***Ardea alba*** great egret	ABNGA04040			G5	S4	
7	***Ardea herodias*** great blue heron	ABNGA04010			G5	S4	
8	***Astragalus tener var. ferrisiae*** Ferris' milk-vetch	PDFAB0F8R3			G1T1	S1.1	1B.1
9	***Astragalus tener var. tener*** alkali milk-vetch	PDFAB0F8R1			G1T1	S1.1	1B.2
10	***Athene cunicularia*** burrowing owl	ABNSB10010			G4	S2	SC
11	***Atriplex cordulata*** heartscale	PDCHE040B0			G2?	S2.2?	1B.2
12	***Atriplex depressa*** brittlescale	PDCHE042L0			G2Q	S2.2	1B.2
13	***Atriplex joaquiniana*** San Joaquin spearscale	PDCHE041F3			G2	S2	1B.2
14	***Branchinecta conservatio*** Conservancy fairy shrimp	ICBRA03010	Endangered		G1	S1	
15	***Branchinecta lynchi*** vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
16	***Branchinecta mesovallensis*** midvalley fairy shrimp	ICBRA03150			G2	S2	
17	***Buteo regalis*** ferruginous hawk	ABNKC19120			G4	S3S4	
18	***Buteo swainsoni*** Swainson's hawk	ABNKC19070		Threatened	G5	S2	
19	***Charadrius alexandrinus nivosus*** western snowy plover	ABNNB03031	Threatened		G4T3	S2	SC
20	***Charadrius montanus*** mountain plover	ABNNB03100	Proposed Threatened		G2	S2?	SC
21	***Cicindela hirticollis abrupta*** Sacramento Valley tiger beetle	IICOL02106			G5TH	SH	
22	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
23	***Cordylanthus palmatus*** palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1.1	1B.1

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
25	***Downingia pusilla*** dwarf downingia	PDCAM060C0			G2	S2	2.2
26	***Egretta thula*** snowy egret	ABNGA06030			G5	S4	
27	***Elanus leucurus*** white-tailed kite	ABNKC06010			G5	S3	
28	***Elderberry Savanna***	CTT63440CA			G2	S2.1	
29	***Emys marmorata*** western pond turtle	ARAAD02030			G3G4	S3	SC
30	***Falco columbarius*** merlin	ABNKD06030			G5	S3	
31	***Fritillaria agrestis*** stinkbells	PMLIL0V010			G3	S3.2	4.2
32	***Gratiola heterosepala*** Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G2	S2	1B.2
33	***Great Valley Cottonwood Riparian Forest***	CTT61410CA			G2	S2.1	
34	***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow	PDMAL0H0R3			G4	S2.2	2.2
35	***Juglans hindsii*** Northern California black walnut	PDJUG02040			G1	S1.1	1B.1
36	***Lasionycteris noctivagans*** silver-haired bat	AMACC02010			G5	S3S4	
37	***Lasiurus cinereus*** hoary bat	AMACC05030			G5	S4?	
38	***Legenere limosa*** legenere	PDCAM0C010			G2	S2.2	1B.1
39	***Lepidium latipes var. heckardii*** Heckard's pepper-grass	PDBRA1M0K1			G4T1	S1.2	1B.2
40	***Lepidurus packardi*** vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
41	***Lilaeopsis masonii*** Mason's lilaeopsis	PDAPI19030		Rare	G2	S2	1B.1
42	***Linderiella occidentalis*** California linderiella	ICBRA06010			G3	S2S3	
43	***Myrmosula pacifica*** Antioch multilid wasp	IIHYM15010			GH	SH	
44	***Navarretia leucocephala ssp. bakeri*** Baker's navarretia	PDPLM0C0E1			G4T2	S2.1	1B.1
45	***Neostapfia colusana*** Colusa grass	PMPOA4C010	Threatened	Endangered	G2	S2	1B.1
46	***Northern Claypan Vernal Pool***	CTT44120CA			G1	S1.1	
47	***Northern Hardpan Vernal Pool***	CTT44110CA			G3	S3.1	
48	***Nycticorax nycticorax*** black-crowned night heron	ABNGA11010			G5	S3	
49	***Oncorhynchus tshawytscha*** chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
50	***Oncorhynchus tshawytscha*** chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
51	***Phalacrocorax auritus*** double-crested cormorant	ABNFD01020			G5	S3	
52	***Plegadis chihi*** white-faced ibis	ABNGE02020			G5	S1	
53	***Pogonichthys macrolepidotus*** Sacramento splittail	AFCJB34020			G2	S2	SC
54	***Progne subis*** purple martin	ABPAU01010			G5	S3	SC
55	***Riparia riparia*** bank swallow	ABPAU08010		Threatened	G5	S2S3	
56	***Sagittaria sanfordii*** Sanford's arrowhead	PMALI040Q0			G3	S3	1B.2
57	***Taxidea taxus*** American badger	AMAJF04010			G5	S4	SC
58	***Thamnophis gigas*** giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3	
59	***Tuctoria mucronata*** Crampton's tuctoria or Solano grass	PMPOA6N020	Endangered	Endangered	G1	S1.1	1B.1
60	***Xanthocephalus xanthocephalus*** yellow-headed blackbird	ABPBXB3010			G5	S3S4	SC

Selected Elements by Scientific Name

California Department of Fish and Game

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFG SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S3	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S2	SSC
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S2	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G3	S1	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G1T1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2.2?	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2Q	S2.2	1B.2
Atriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G1	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S2	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2.1
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G4T3	S2	SSC
Charadrius montanus mountain plover	ABNNB03100	Proposed Threatened	None	G2	S2?	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFG SSC or FP
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
Cuscuta obtusiflora var. glandulosa Peruvian dodder	PDCUS01111	None	None	G5T4T5	SH	2.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	G2	S2	2.2
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Falco columbarius merlin	ABNKD06030	None	None	G5	S3	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3.2	4.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G4	S2.2	1B.2
Juglans hindsii Northern California black walnut	PDJUG02040	None	None	G1	S1.1	1B.1
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4?	
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2.2	1B.1
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1.2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S2S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFG SSC or FP
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G3	S2S3	
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Neostapfia colusana Colusa grass	PMPOA4C010	Threatened	Endangered	G2	S2	1B.1
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S3	
Oncorhynchus tshawytscha chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
Oncorhynchus tshawytscha chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G1G2	S1S2	1B.1
Plegadis chihi white-faced ibis	ABNGE02020	None	None	G5	S1	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	G2	S2	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S4	SSC
Thamnophis gigas giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFG SSC or FP
Tuctoria mucronata	PMPOA6N020	Endangered	Endangered	G1	S1	1B.1
Crampton's tuctoria or Solano grass						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Xanthocephalus xanthocephalus	ABPBXB3010	None	None	G5	S3S4	SSC
yellow-headed blackbird						

Record Count: 66

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S3	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S2	SSC
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S2	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G3	S1	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G1T1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2.2?	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2Q	S2.2	1B.2
Atriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G1	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S2	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2.1
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G4T3	S2	SSC
Charadrius montanus mountain plover	ABNNB03100	Proposed Threatened	None	G2	S2?	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
Cuscuta obtusiflora var. glandulosa Peruvian dodder	PDCUS01111	None	None	G5T4T5	SH	2.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	G2	S2	2.2
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Falco columbarius merlin	ABNKD06030	None	None	G5	S3	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3.2	4.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G4	S2.2	1B.2
Juglans hindsii Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4?	
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2.2	1B.1
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T2	S2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S2S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G3	S2S3	
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Neostapfia colusana Colusa grass	PMPOA4C010	Threatened	Endangered	G2	S2	1B.1
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S3	
Oncorhynchus tshawytscha chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
Oncorhynchus tshawytscha chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G1G2	S1S2	1B.1
Plegadis chihi white-faced ibis	ABNGE02020	None	None	G5	S1	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	G2	S2	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S4	SSC
Thamnophis gigas giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Tuctoria mucronata	PMPOA6N020	Endangered	Endangered	G1	S1	1B.1
Crampton's tuctoria or Solano grass						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Xanthocephalus xanthocephalus	ABPBXB3010	None	None	G5	S3S4	SSC
yellow-headed blackbird						

Record Count: 66