

**Appendix B:  
Biological Resources Supporting Information**

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**B.1 - Special-status Species Tables**

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**Table 1: Special-status Plant Species Evaluated**

Scientific Name Common Name	Status			Habitat Description <sup>4</sup>	Potential to Occur and Rationale <sup>5</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>	CNPS <sup>3</sup>		
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	—	—	1B.2	Playas, valley and foothill grasslands with adobe clay soils and vernal pools. Elevation: 1–60 m. Blooming period: March–June	<b>None.</b> The project site does not contain suitable grassland or vernal pool habitat to support this species.
<i>Atriplex cordulata</i> var. <i>cordulata</i> Heartscale	—	—	1B.2	Chenopod scrub, valley and foothill grassland, meadows and seeps. Alkaline flats and scalds in the Central Valley; sandy soils Elevation: 3–275 m. Blooming period:	<b>None.</b> The project site does not contain suitable grassland, vernal pool, or scrub habitat to support this species.
<i>Atriplex depressa</i> brittlescale	—	—	1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkali clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. Elevation: 1–325 m. Blooming period:	<b>None.</b> The project site does not contain suitable grassland, vernal pool, or scrub habitat to support this species.
<i>Atriplex persistens</i> Vernal pool smallscale	—	—	1B.2	Vernal pools Elevation: 3–115 m. Blooming period:	<b>None.</b> The project site does not contain vernal pools to support this species.
<i>Carex lyngbyei</i> Lyngbye’s sedge	—	—	2B.2	Marshes and swamps— brackish or freshwater Elevation: 0– 200 m. Blooming period:	<b>None.</b> The project site does not contain, marsh or swamp habitat to support this species.
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose tarplant	—	—	1B.1	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Often on alkaline sites. Elevation: 0– 500 m. Blooming period:	<b>None.</b> The project site does not contain chaparral, prairie, marsh, or grassland habitat to support this species.
<i>Chloropyron molle</i> ssp. <i>molle</i> soft salty bird’s-beak	FE	CR	1B.2	Marshes and swamps (coastal salt) Elevation: 0–3 m. Blooming period: June–November	<b>None.</b> The project site does not contain, marsh habitat to support this species.
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander’s water-hemlock	—	—	2B.1	Coastal, freshwater or brackish marshes and swamps. Elevation: 0–200 m. Blooming period: July–September	<b>None.</b> The project site does not contain marsh habitat to support this species.

Scientific Name Common Name	Status			Habitat Description <sup>4</sup>	Potential to Occur and Rationale <sup>5</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>	CNPS <sup>3</sup>		
<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> Suisun thistle	FE	—	1B.1	Marshes and swamps. Elevation: 0–1 m. Blooming period:	<b>None.</b> The project site does not contain marsh habitat to support this species.
<i>Downingia pusilla</i> Dwarf downingia	—	—	2B.2	Valley and foothill grassland (mesic sites), vernal pools. Elevation: 1–490 m. Blooming period:	<b>None.</b> The project site does not contain grassland or vernal pool habitat to support this species.
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	—	—	1B.1	Chaparral, coastal scrub, valley and foothill grassland. Dry, exposed clay or sandy substrates. Elevation: 105–350 m. Blooming period:	<b>None.</b> The project site does not contain chaparral, scrub, or grassland habitat to support this species.
<i>Eryngium jepsonii</i> Jepson's coyote–thistle	—	—	1B.2	Valley and foothill grasslands and vernal pools Elevation: 3–300 m. Blooming period: April–August	<b>None.</b> The project site does not contain vernal pools to support this species.
<i>Extriplex joaquinana</i> San Joaquin spearscale	—	—	1B.2	Chenopod scrub, meadows, seeps, playas, valley and foothill grasslands Elevation: 1–835 m. Blooming period: April–October	<b>None.</b> The project site does not contain grassland, scrub, or meadow habitats support this species. .
<i>Isocoma arguta</i> Carquinez goldenbush	—	—	1B.1	Valley and foothill grassland (alkaline) Elevation: 1–20 m. Blooming period: August–December	<b>None.</b> The project site does not contain grassland habitat to support this species.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE	—	1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland. Swales, low depressions, in open grassy areas. Elevation: 1–450 m. Blooming period:	<b>None.</b> The project site does not contain grassland, vernal pool, or woodland habitat to support this species.
<i>Legenere limosa</i> Legenere	—	—	1B.1	Vernal pools Elevation: 1–1005 m. Blooming period:	<b>None.</b> The project site does not contain vernal pools to support this species.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	—	—	1B.1	Freshwater or brackish marshes and swamps and riparian scrub. Elevation: 0–10 m. Blooming period: April–November	<b>None.</b> The project site does not contain marsh habitat to support this species.

Scientific Name Common Name	Status			Habitat Description <sup>4</sup>	Potential to Occur and Rationale <sup>5</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>	CNPS <sup>3</sup>		
<i>Microseris paludosa</i> Marsh microseris	—	—	1B.2	Closed–cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation: 3–610 m. Blooming period:	<b>None.</b> The project site does not contain woodland, scrub, or grassland habitat to support this species.
<i>Navarretia leucocephala ssp. bakeri</i> Baker’s navarretia	—	—	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. Elevation: 3–1680 m. Blooming period:	<b>None.</b> The project site does not contain suitable habitat to support this species.
<i>Plagiobothrys hystriculus</i> Bearded popcornflower	—	—	1B.1	Vernal pools, valley and foothill grassland. Elevation: 1– 275 m. Blooming period:	<b>None.</b> The project site does not contain vernal pools or grasslands to support this species.
<i>Puccinellia simplex</i> California alkali grass	—	—	1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernal mesic sites. Elevation: 1– 915 m. Blooming period:	<b>None.</b> The project site does not contain suitable habitat to support this species
<i>Spergularia macrotheca var. longistyla</i> Long–styled sand–spurrey	—	—	1B.2	Marshes and swamps, meadows and seeps. Elevation: 0– 220 m. Blooming period:	<b>None.</b> The project site does not contain marsh habitat to support this species.
<i>Stuckenia filiformis ssp. alpina</i> Northern slender pondweed	—	—	2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels. Elevation: 5–2325 m. Blooming period:	<b>None.</b> The project site does not contain marsh habitat to support this species.
<i>Symphotrichum lentum</i> Suisun Marsh aster	—	—	1B.2	Brackish or freshwater marshes and swamps Elevation: 0–3 m. Blooming period: May–November	<b>None.</b> The project site does not contain marsh habitat to support this species.
<i>Trifolium amoenum</i> Two–fork clover	FE	—	1B.1	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face. Elevation: 5–310 m. Blooming period:	<b>None.</b> The project site does not contain grassland or coastal bluff scrub habitat to support this species.

Scientific Name Common Name	Status			Habitat Description <sup>4</sup>	Potential to Occur and Rationale <sup>5</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>	CNPS <sup>3</sup>		
<i>Trifolium hydrophilum</i> Saline clover	—	—	1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline) and vernal pools Elevation: 0–300 m. Blooming period: April–June	<b>None.</b> The project site does not contain marsh or grassland habitat to support this species.
<sup>1</sup> <b>Federal Status: 2021 USFWS Listing</b>			<sup>2</sup> <b>State Status: 2021 CDFW Listing</b>		<sup>3</sup> <b>CNPS: 2021 CNPS Listing</b>
<b>ESU</b> = Evolutionary Significant Unit is a distinctive population. <b>FE</b> = Listed as endangered under the FESA. <b>FT</b> = Listed as threatened under the FESA. <b>FC</b> = Candidate for listing (threatened or endangered) under FESA. <b>FD</b> = Delisted in accordance with the FESA. <b>FPD</b> = Federally Proposed to be Delisted. <b>MBTA</b> =protected by the Migratory Bird Treaty Act — = Not federally listed			<b>SE</b> = Listed as endangered under the CESA. <b>ST</b> = Listed as threatened under the CESA. <b>SSC</b> = Species of the Special Concern as identified by the CDFW. <b>FP</b> = Listed as fully protected under FGC. <b>CFG</b> = FGC =protected by FGC 3503.5 <b>CR</b> = Rare in California. — = Not state listed		<b>Rank 1A</b> = Plants species that presumed extinct in California. <b>Rank 1B</b> = Plant species that are rare, threatened, or endangered in California and elsewhere. <b>Rank 2</b> = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. <b>Rank 3</b> = Plants about which we need more information—A Review List <b>Rank 4</b> = Plants of limited distribution—A Watch List Blooming period: Months in parentheses are uncommon.
<sup>4</sup> <b>Habitat Description:</b> Habitat description adapted from CNDDDB <sup>1</sup> and CNPS online inventory <sup>2</sup> or other specified source*. <sup>5</sup> <b>Potential to Occur and Rationale:</b> Location of recorded species occurrences determined by geospatial information from BIOS 5 <sup>3</sup> or other specified source*.					

<sup>1</sup> California Department of Fish and Wildlife (CDFW). 2020. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed February 18, 2022.  
<sup>2</sup> California Native Plant Society (CNPS). 2020. California Native Plant Society Rare and Endangered Plant Inventory. Website: <http://www.rareplants.cnps.org/>. Accessed February 18, 2022.  
<sup>3</sup> California Department of Fish and Wildlife (CDFW). 2020. Biogeographic Information and Observation System (BIOS 5). Website: <https://map.dfg.ca.gov/bios/>. Accessed February 18, 2022.



**Table 2: Special–status Wildlife Species Evaluated**

Scientific Name Common Name	Status		Habitat Description <sup>3</sup>	Potential to Occur and Rationale <sup>4</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>		
<b>Amphibians</b>				
<i>Rana boylei</i> foothill yellow–legged frog	—	SE SSC	Partly–shaded, shallow streams and riffles with a rocky substrate in forests, chaparral, and woodlands. Needs at least some cobble–sized substrate for egg–laying.	<b>None.</b> The project site does not contain suitable habitat to support this species. The project site does not contain a waterbody with a suitable substrate for breeding. Additionally, the project site lacks suitable upland refuge habitat due to the dense surrounding developments. The nearest recorded occurrence is located 3.72 miles northwest of the project site.
<i>Ambystoma californiense</i> <i>pop. 1</i> California tiger salamander– central California DPS	FT	ST	Lives in vacant or mammal–occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	<b>None.</b> No suitable breeding habitat is present on–site for this species. The project site lacks vernal pools, seasonal wetlands, or seasonal water sources with standing water. Additionally, the project site does not contain suitable upland refuge habitat with underground burrows due previous development. The nearest recorded occurrence is located 4.3 miles southeast of the project site.
<b>Birds</b>				
<i>Agelaius tricolor</i> tricolored blackbird	— MBTA	ST SSC	Inhabits freshwater marsh, swamps and wetlands. Highly colonial species, most numerous in Central Valley and vicinity. Breeds in large freshwater marshes, dense stands of hydrophytic vegetation (cattails, bulrushes, etc.). Requires open water, protected nesting substrate, and foraging area with insect prey within a few km. of the colony.	<b>None.</b> The project site does not contain suitable wetland habitat with dense stands of hydrophytic vegetation to support this species. The nearest recorded occurrence is located 3.4 miles northeast of the project site
<i>Athene cunicularia</i> burrowing owl	— MBTA	— SSC	Found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low–growing vegetation. A subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel ( <i>Otospermophilus beecheyi</i> ).	<b>None.</b> The project site lacks grassland habitat, or areas of flat open ground preferred by this species. No owls, signs of owls, or ground squirrel burrows were observed during the field survey. The nearest recorded occurrence of this species is located approximately .75 miles south of the site, across Highway 12.
<i>Buteo regalis</i> Ferruginous hawk	— MBTA	—	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Preferred nesting habitat consists of communities with isolated trees, woodland edges, or cliffs.	<b>None.</b> The project site does contain open grassland, pinyon, or juniper habitats. The nearest recorded occurrence of this species is located approximately 4.2 miles southeast of the site.

Scientific Name Common Name	Status		Habitat Description <sup>3</sup>	Potential to Occur and Rationale <sup>4</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>		
<i>Buteo swainsoni</i> Swainson’s hawk	— MBTA	ST	Breeds in grasslands with scattered trees, juniper–sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	<b>None.</b> The project site does contain grasslands, riparian areas, or agricultural spaces for nesting. Additionally, the project site lacks suitable foraging habitat due to previous developments. The nearest recorded occurrence of this species is located approximately 3.2 miles northwest of the site.
<i>Circus hudsonius</i> northern harrier	— MBTA	— SSC	Coastal salt marsh and freshwater marsh; nests and forages in grasslands; nests on ground in shrubby vegetation, usually at marsh edge.	<b>None.</b> The project site does not contain marsh or grassland habitat to support this species. The nearest recorded occurrence of this species is located approximately 4 miles south of the project site associated with the Suisun marsh.
<i>Coturnicops noveboracensis</i> Yellow rail	— MBTA	— SSC	Wet or shallow marshes populated with dense sedges and grasses.	<b>None.</b> The project site does not contain marsh habitat with dense vegetation to support this species. The nearest recorded occurrence of this species is located approximately 4.5 miles south of the project site associated with the Suisun marsh.
<i>Elanus leucurus</i> white–tailed kite	— MBTA	— FP	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Requires open grasslands, meadows, or marshes for foraging close to the isolated, dense–topped trees for nesting and perching.	<b>Low.</b> The project site does contain large trees suitable for nesting. However, it does not contain this species preferred foraging habitat of open meadows, grasslands or marshes. The nearest recorded occurrence of this species is located approximately 4.5 miles to the west of the project site associated with Suisun Creek.
<i>Falco peregrinus anatum</i> American peregrine falcon	FD MBTA	SD FP FGC	Found near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human–made structures. Nest consists of a scrape or a depression or ledge in an open site.	<b>Low.</b> The project site does contain human made structures that may provide marginal nesting habitat. However, the project site does not contain this species preferred foraging habitat. This species has two recorded occurrences within 5 miles of the site.
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	— MBTA	— SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	<b>None.</b> The project site does not contain dense emergent vegetation to support this species. The nearest recorded occurrence of this species is located approximately 1 mile south of the site associated with Suisun marsh.
<i>Laterallus jamaicensis coturniculus</i> California black rail	— MBTA	ST FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Requires water depth of about 1 inch that does not fluctuate during the year, and dense vegetation for nesting.	<b>None.</b> The project site does not contain fresh or saltwater marsh habitat to support this species. The nearest recorded occurrence of this species is located approximately 1.5 miles south of the site associated with Suisun marsh.
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	— MBTA	— SSC	Resident of brackish–water marshes surrounding Suisun Bay. Inhabits cattails, tules and other sedges, and <i>Salicornia</i> ; also known to frequent tangles bordering sloughs.	<b>None.</b> The project site does not contain tidal marsh with associated emergent vegetation to support this species. The nearest recorded occurrence of this species is located approximately 1.5 miles south of the site associated with Suisun marsh.

Scientific Name Common Name	Status		Habitat Description <sup>3</sup>	Potential to Occur and Rationale <sup>4</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>		
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE MBTA	SE FP	Found in saltwater marshes traversed by tidal sloughs in the vicinity of San Francisco Bay; associated with abundant growths of pickleweed; feeds on mollusks obtained from mud bottomed sloughs	<b>None.</b> The project site does not contain tidal marsh habitat containing pickleweed to support this species. The nearest recorded occurrence of this species is located approximately 1.75 miles south of the site associated with Suisun marsh.
<b>Fish</b>				
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	—	— SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Inhabits slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	<b>None.</b> The project site does not contain suitable aquatic habitat to support this species. The nearest recorded occurrence of this species is located 3 miles to the south of the site associated with Suisun marsh.
<i>Spirinchus thaleichthys</i> longfin smelt	FC	ST	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15–30 ppt, but can be found in completely freshwater to almost pure seawater.	<b>None.</b> The project site does not contain suitable aquatic habitat to support this species. The nearest recorded occurrence of this species is located 1.5 miles to the south of the site associated with Suisun marsh.
<b>Invertebrates</b>				
<i>Danaus plexippus</i> (pop. 1) Monarch–California overwintering population	FC	—	Roosts located in wind protected Eucalyptus, Monterey pine, and Cypress tree groves with nectar and water sources nearby.	<b>None:</b> The project site does not contain suitable tree groves to support this species.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT	—	Occurs only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> ). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries, usually in riparian scrub.	<b>None:</b> The project site does not contain suitable blue elderberry trees with associated riparian habitat to support this species.
<i>Branchinecta conservation</i> Conservancy fair shrimp	FE	—	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	<b>None:</b> The project site does not contain suitable habitat to support this species.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT	—	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	<b>None:</b> The project site does not contain suitable habitat to support this species.

Scientific Name Common Name	Status		Habitat Description <sup>3</sup>	Potential to Occur and Rationale <sup>4</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>		
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE	—	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	<b>None:</b> The project site does not contain suitable habitat to support this species.
<b>Mammals</b>				
<i>Corynorhinus townsendii</i> Townsend’s big-eared bat	—	— SSC	Roosts in caves, cliffs, and rock ledges. Also found hanging from walls and ceilings in man-made structures. Roosting sites limiting. Extremely sensitive to human disturbance.	<b>Low:</b> The project site contains marginal roosting habitat in the form of trees and man-made structures.
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	FE	SE FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	<b>None.</b> The project site does not contain pickleweed marsh habitat to support this species. The nearest recorded occurrence of this species is located 1 mile to the south of the site associated with Suisun marsh.
<i>Sorex ornatus sinuosus</i> Suisun shrew	—	— SSC	Inhabits tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying cover and driftweed and other litter above the mean hightide line for nesting and foraging.	<b>None.</b> The project site does not contain tidal marsh habitat to support this species. The nearest recorded occurrence of this species is located 1 mile to the south of the site associated with Suisun marsh.
<b>Reptiles</b>				
<i>Emys marmorata</i> western pond turtle	—	— SSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.	<b>Low:</b> The project site lacks suitable upland habitat for reproduction. The adjacent aquatic feature lacks suitable basking sites, and is generally separated from suitable habitat by culverts, dense residential developments, and high-use traffic corridors. The nearest recorded occurrence of this species is located 4.5 miles to the south of the site associated with Chadbourne slough.

Scientific Name Common Name	Status		Habitat Description <sup>3</sup>	Potential to Occur and Rationale <sup>4</sup>
	USFWS <sup>1</sup>	CDFW <sup>2</sup>		
<b><sup>1</sup> Federal Status: 2020 USFWS Listing</b>			<b><sup>2</sup> State Status: 2021 CDFW Listing</b>	
<b>ESU</b> = Evolutionary Significant Unit is a distinctive population.			<b>SE</b> = Listed as endangered under the CESA.	
<b>FE</b> = Listed as endangered under the FESA.			<b>ST</b> = Listed as threatened under the CESA.	
<b>FT</b> = Listed as threatened under the FESA.			<b>SSC</b> = Species of Special Concern as identified by the CDFW.	
<b>FC</b> = Candidate for listing (threatened or endangered) under FESA.			<b>FP</b> = Listed as fully protected under FGC.	
<b>FD</b> = Delisted in accordance with the FESA.			<b>CFG</b> = FGC =protected by FGC 3503.5	
<b>FPD</b> = Federally Proposed to be Delisted.			<b>CE</b> = Candidate endangered under the CESA.	
<b>MBTA</b> = protected by the Migratory Bird Treaty Act			<b>—</b> = Not state listed	
<b>—</b> = Not federally listed				
<sup>3</sup> Habitat Description: Habitat description adapted from CNDDDB or other specified source*				
<sup>4</sup> Potential to Occur and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 5 or other specified source*				

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## **B.2 - CNDDDB Inventory Search Results**

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**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



**Query Criteria:** Quad (Fairfield South (3812221) OR Fairfield North (3812231) OR Mt. George (3812232) OR Cordelia (3812222) OR Elmira (3812138) OR Honker Bay (3812118) OR Vine Hill (3812211) OR Benicia (3812212) OR Denverton (3812128))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Agrostis hendersonii</i> Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3	S3	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex cordulata var. cordulata</i> heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
<i>Atriplex depressa</i> brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
<i>Atriplex persistens</i> vernal pool smallscale	PDCHE042P0	None	None	G2	S2	1B.2
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	



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<b><i>Branchinecta lynchi</i></b> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<b><i>Branchinecta mesovallensis</i></b> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<b><i>Brodiaea leptandra</i></b> narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2
<b><i>Buteo regalis</i></b> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<b><i>Buteo swainsoni</i></b> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<b><i>Calochortus pulchellus</i></b> Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
<b><i>Carex lyngbyei</i></b> Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2
<b><i>Castilleja affinis</i> var. <i>neglecta</i></b> Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
<b><i>Ceanothus purpureus</i></b> holly-leaved ceanothus	PDRHA04160	None	None	G2	S2	1B.2
<b><i>Centromadia parryi</i> ssp. <i>congdonii</i></b> Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
<b><i>Centromadia parryi</i> ssp. <i>parryi</i></b> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<b><i>Chloropyron molle</i> ssp. <i>hispidum</i></b> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<b><i>Chloropyron molle</i> ssp. <i>molle</i></b> soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
<b><i>Cicuta maculata</i> var. <i>bolanderi</i></b> Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
<b><i>Circus hudsonius</i></b> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<b><i>Cirsium hydrophilum</i> var. <i>hydrophilum</i></b> Suisun thistle	PDAST2E1G1	Endangered	None	G2T1	S1	1B.1
<b><i>Coastal Brackish Marsh</i></b> Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
<b><i>Corynorhinus townsendii</i></b> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<b><i>Coturnicops noveboracensis</i></b> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<b><i>Danaus plexippus</i> pop. 1</b> monarch - California overwintering population	IILEPP2012	Candidate	None	G4T2T3	S2S3	
<b><i>Delphinium recurvatum</i></b> recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2



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<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Dumontia oregonensis</i> hairy water flea	ICBRA23010	None	None	G1G3	S1	
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Elaphrus viridis</i> Delta green ground beetle	IICOL36010	Threatened	None	G1	S1	
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	PDAP10Z130	None	None	G2	S2	1B.2
<i>Erysimum capitatum var. angustatum</i> Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria pluriflora</i> adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Helminthoglypta nickliniana bridgesi</i> Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
<i>Hesperolinon breweri</i> Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Isocoma arguta</i> Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lasiurus blossevillii</i> western red bat	AMACC05060	None	None	G4	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G3G4	S4	
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Lathyrus jepsonii var. jepsonii</i> Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	PDPLM09140	None	None	G2G3	S2S3	1B.2
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
<i>Limosella australis</i> Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
<i>Microseris paludosa</i> marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC



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<i>Oenothera deltooides ssp. howellii</i> Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Perognathus inornatus</i> San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
<i>Plagiobothrys hystriculus</i> bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
<i>Polygonum marinense</i> Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S1	FP
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<i>Rhynchospora californica</i> California beaked-rush	PMCYP0N060	None	None	G1	S1	1B.1
<i>Saldula usingeri</i> Wilbur Springs shorebug	IIHEM07010	None	None	G1	S1	
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Sidalcea hickmanii ssp. napensis</i> Napa checkerbloom	PDMAL110A6	None	None	G3T1	S1	1B.1
<i>Sidalcea keckii</i> Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
<i>Sorex ornatus sinuosus</i> Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2



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<b><i>Speyeria callippe callippe</i></b> callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
<b><i>Spirinchus thaleichthys</i></b> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<b><i>Sternula antillarum browni</i></b> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<b><i>Stuckenia filiformis ssp. alpina</i></b> northern slender pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
<b><i>Symphotrichum lentum</i></b> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<b><i>Taxidea taxus</i></b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b><i>Thamnophis gigas</i></b> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<b><i>Trichostema ruygtii</i></b> Napa bluecurls	PDLAM220H0	None	None	G1G2	S1S2	1B.2
<b><i>Trifolium amoenum</i></b> two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
<b><i>Trifolium hydrophilum</i></b> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<b>Valley Needlegrass Grassland</b> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
<b><i>Viburnum ellipticum</i></b> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 115

## **B.3 - CNPS Rare Plant Inventory Search Results**

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## Search Results

5 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1A:1B:2A:2B] Fed List is one of [FE:FT:FC] and State List is one of [CE:CT:CR:CE:CT] , 9-Quad include [3812232:3812222:3812231:3812138:3812118:3812211:3812221:3812212:3812128]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<a href="#"><u><i>Castilleja affinis</i></u></a> <a href="#"><u><i>var. neglecta</i></u></a>	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	FE	CT	G4G5T1T2	S1S2	1B.2	No Photo Available
<a href="#"><u><i>Chloropyron molle</i></u></a> <i>ssp. molle</i>	soft salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	FE	CR	G2T1	S1	1B.2	No Photo Available
<a href="#"><u><i>Erysimum capitatum</i></u></a> <i>var. angustatum</i>	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	FE	CE	G5T1	S1	1B.1	No Photo Available
<a href="#"><u><i>Oenothera deltoides</i></u></a> <i>ssp. howellii</i>	Antioch Dunes evening- primrose	Onagraceae	perennial herb	Mar-Sep	FE	CE	G5T1	S1	1B.1	No Photo Available
<a href="#"><u><i>Orcuttia inaequalis</i></u></a>	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	No Photo Available

Showing 1 to 5 of 5 entries

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