

Appendix B: Biological Resources Supporting Information

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (Antioch North (3812117) OR Antioch South (3712187) OR Honker Bay (3812118) OR Jersey Island (3812116) OR Clayton (3712188) OR Brentwood (3712186) OR Denver (3812128) OR Rio Vista (3812126) OR Birds Landing (3812127))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Alkali Meadow</i> Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
<i>Alkali Seep</i> Alkali Seep	CTT45320CA	None	None	G3	S2.1	
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
<i>Andrena blennospermatis</i> Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Anomobryum julaceum</i> slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
<i>Anthicus antiochensis</i> Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
<i>Anthicus sacramento</i> Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	IILEPH7012	Endangered	None	G5T1	S1	
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Archoplites interruptus</i> Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
<i>Arctostaphylos manzanita ssp. laevigata</i> Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC



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<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener</i> var. <i>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</i> var. <i>cordulata</i> heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
<i>Atriplex depressa</i> brittlescale	PDCHE042L0	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	Candidate Endangered	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branchinecta mesoavallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
<i>Campanula exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<i>Charadrius montanus</i> mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
<i>Chloropyron molle</i> ssp. <i>hispidum</i> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<i>Chloropyron molle</i> ssp. <i>molle</i> soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2



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<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water-hemlock	PDAP10M051	None	None	G5T4T5	S2?	2B.1
<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> Suisun thistle	PDAST2E1G1	Endangered	None	G2T1	S1	1B.1
<i>Cismontane Alkali Marsh</i> Cismontane Alkali Marsh	CTT52310CA	None	None	G1	S1.1	
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
<i>Coelus gracilis</i> San Joaquin dune beetle	IICOL4A020	None	None	G1	S1	
<i>Cordylanthus nidularius</i> Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Cryptantha hooveri</i> Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
<i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S1	
<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>Efferia antiochi</i> Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
<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>Eriastrum ertterae</i> Lime Ridge eriastrum	PDPLM030F0	None	None	G1	S1	1B.1
<i>Eriogonum nudum</i> var. <i>psychicola</i> Antioch Dunes buckwheat	PDPGN0849Q	None	None	G5T1	S1	1B.1
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1



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<i>Eryngium jepsonii</i> Jepson's coyote-thistle	PDAP10Z130	None	None	G2	S2	1B.2
<i>Erysimum capitatum</i> var. <i>angustatum</i> Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
<i>Eucerceris ruficeps</i> redheaded sphecoid wasp	IIHYM18010	None	None	G1G3	S1S2	
<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 agrestis</i> stinkbells	PMLIL0V010	None	None	G3	S3	4.2
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<i>Grimmia torenii</i> Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
<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>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hygrotus curvipes</i> curved-foot hygrotus diving beetle	IICOL38030	None	None	G1	S1	
<i>Hypomesus transpacificus</i> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<i>Idiostatus middlekauffi</i> Middlekauff's shieldback katydid	IIORT31010	None	None	G1G2	S1	
<i>Isocoma arguta</i> Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Lasiurus blossevillii</i> western red bat	AMACC05060	None	None	G4	S3	SSC



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<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 packardii</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAP19030	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>Lytta molesta</i> molestan blister beetle	IICOL4C030	None	None	G2	S2	
<i>Madia radiata</i> showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
<i>Malacothamnus hallii</i> Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
<i>Metapogon hurdi</i> Hurd's metapogon robberfly	IIDIP08010	None	None	G1G2	S1S2	
<i>Microseris paludosa</i> marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>Myrmosula pacifica</i> Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
<i>Navarretia gowenii</i> Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1



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<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<i>Navarretia nigelliformis ssp. radians</i> shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
<i>Oenothera deltoides 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>Perdita scitula antiochensis</i> Antioch andrenid bee	IIHYM01031	None	None	G1T1	S1	
<i>Perognathus inornatus</i> San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Philanthus nasalis</i> Antioch specid wasp	IIHYM20010	None	None	G1	S1	
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<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>Potamogeton zosteriformis</i> eel-grass pondweed	PMPO03160	None	None	G5	S3	2B.2
<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>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	



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<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Sanicula saxatilis</i> rock sanicle	PDAP11Z0H0	None	Rare	G2	S2	1B.2
<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 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>Sphecodogastra antiochensis</i> Antioch Dunes halictid bee	IIHYM78010	None	None	G1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Stabilized Interior Dunes</i> Stabilized Interior Dunes	CTT23100CA	None	None	G1	S1.1	
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Streptanthus albidus ssp. peramoenus</i> most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
<i>Streptanthus hispidus</i> Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G2	S2	1B.3
<i>Stuckenia filiformis ssp. alpina</i> slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
<i>Symphyotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis gigas</i> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 144

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Search Criteria: CRPR is one of [1A,1B,2A,2B,3], Quad is one of [3812117,3812118,3812116,3712188,3712187,3712186,3812128,3812127,3812126]

Scientific Name

Common Name

Family

Lifeform

Blooming Period

Fed List

State List

Global Rank

State Rank

CA Rare Plant Rank

General Habitats

Micro Habitats

Lowest Elevation

Highest Elevation

CA Endemic

Date Added

Photo

Search:

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<u>Amsinckia grandiflora</u>	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	FE	CE	G1	S1	1B.1	 <div>© 2015 Zoya Akulova</div>
<u>Arctostaphylos auriculata</u>	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	None	None	G2	S2	1B.3	No Photo Available
<u>Arctostaphylos manzanita ssp. laevigata</u>	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar(Apr)	None	None	G5T2	S2	1B.2	No Photo Available
<u>Astragalus tener var. tener</u>	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	No Photo Available
<u>Atriplex cordulata var. cordulata</u>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	No Photo Available
<u>Atriplex depressa</u>	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	No Photo Available
<u>Blepharizonia plumosa</u>	big tarplant	Asteraceae	annual herb	Jul-Oct	None	None	G1G2	S1S2	1B.1	No Photo Available
<u>Calochortus pulchellus</u>	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	G2	S2	1B.2	No Photo Available
<u>Campanula exigua</u>	chaparral harebell	Campanulaceae	annual herb	May-Jun	None	None	G2	S2	1B.2	No Photo Available
<u>Centromedusa</u>	Canada's	Asteraceae	annual herb	May	None	None	G2T1T2	S1S2	1B.1	No Photo Available




7/2/2021

Inventory of Rare and Endangered Plants of California - CNPS

<u>Centromadia</u>	Congdon's	Asteraceae	annual herb	May-Oct(Nov)	None	None	G3T1T2	S1S2	1B.1	CA	No Photo
<u>parryi ssp. congdonii</u>	tarplant			BLOOMING	FED	STATE	GLOBAL	STATE	PLANT		Available
NAME	COMMON NAME	FAMILY	LIFEFORM	PERIOD	LIST	LIST	RANK	RANK	RANK	PHOTO	
<u>Centromadia</u>	pappose	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2		No Photo
<u>parryi ssp. parryi</u>	tarplant										Available
<u>Chloropyron molle</u>	hispid salty	Orobanchaceae	annual herb	Jun-Sep	None	None	G2T1	S1	1B.1		No Photo
<u>ssp. hispidum</u>	bird's-beak		(hemiparasitic)								Available
<u>Chloropyron molle</u>	soft salty bird's-	Orobanchaceae	annual herb	Jun-Nov	FE	CR	G2T1	S1	1B.2		No Photo
<u>ssp. molle</u>	beak		(hemiparasitic)								Available
<u>Cicuta maculata</u>	Bolander's	Apiaceae	perennial herb	Jul-Sep	None	None	G5T4T5	S2?	2B.1		No Photo
<u>var. bolanderi</u>	water-hemlock										Available
<u>Cirsium</u>	Suisun thistle	Asteraceae	perennial herb	Jun-Sep	FE	None	G2T1	S1	1B.1		No Photo
<u>hydrophilum</u>											Available
<u>var. hydrophilum</u>											
<u>Cordylanthus</u>	Mt. Diablo	Orobanchaceae	annual herb	Jun-Aug	None	CR	G1	S1	1B.1		No Photo
<u>nidularius</u>	bird's-beak		(hemiparasitic)								Available
<u>Cryptantha hooveri</u>	Hoover's	Boraginaceae	annual herb	Apr-May	None	None	GH	SH	1A		No Photo
	cryptantha										Available
<u>Delphinium</u>	Hospital Canyon	Ranunculaceae	perennial herb	Apr-Jun	None	None	G3T3	S3	1B.2		No Photo
<u>californicum</u>	larkspur										Available
<u>interius</u>											
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2		No Photo
											Available
<u>Eriastrum ertterae</u>	Lime Ridge	Polemoniaceae	annual herb	Jun-Jul	None	None	G1	S1	1B.1		No Photo
	eriastrum										Available
<u>Eriogonum nudum</u>	Antioch Dunes	Polygonaceae	perennial herb	Jul-Oct	None	None	G5T1	S1	1B.1		No Photo
<u>var. psychicola</u>	buckwheat										Available
<u>Eriogonum</u>	Mt. Diablo	Polygonaceae	annual herb	Apr-Sep(Nov-Dec)	None	None	G1	S1	1B.1		No Photo
<u>truncatum</u>	buckwheat										Available
<u>Eryngium jepsonii</u>	Jepson's coyote-	Apiaceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2		No Photo
	thistle										Available
<u>Erysimum</u>	Contra Costa	Brassicaceae	perennial herb	Mar-Jul	FE	CE	G5T1	S1	1B.1		No Photo
<u>capitatum</u>	wallflower										Available
<u>angustatum</u>											
<u>Eschscholzia</u>	diamond-	Papaveraceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1		No Photo
<u>rhombipetala</u>	petaled										

	California poppy									CA	Available
<i>Extriplex</i> ▲ SCIENTIFIC <i>joaquinana</i> NAME	San Joaquin spearscale COMMON NAME	Chenopodiaceae FAMILY	annual herb LIFEFORM	Apr-Oct BLOOMING PERIOD	None FED LIST	None STATE LIST	G2 GLOBAL RANK	S2 STATE RANK	RARE PLANT RANK	No Photo PHOTO Available	
<i>Fritillaria liliacea</i>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	G2	S2	1B.2	No Photo Available	
<i>Grimmia torenii</i>	Toren's grimmia	Grimmiaceae	moss		None	None	G2	S2	1B.3	 ©2021 Scot Loring	
<i>Helianthella castanea</i>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	No Photo Available	
<i>Hesperolinon breweri</i>	Brewer's western flax	Linaceae	annual herb	May-Jul	None	None	G2	S2	1B.2	No Photo Available	
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose- mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	No Photo Available	
<i>Isocoma arguta</i>	Carquinez goldenbush	Asteraceae	perennial shrub	Aug-Dec	None	None	G1	S1	1B.1	No Photo Available	
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	FE	None	G1	S1	1B.1	No Photo Available	
<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1	No Photo Available	
<i>Lathyrus jepsonii var. jepsonii</i>	Delta tule pea	Fabaceae	perennial herb	May- Jul(Aug- Sep)	None	None	G5T2	S2	1B.2	No Photo Available	
<i>Legenere limosa</i>	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	No Photo Available	
<i>Lessingia hololeuca</i>	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	G2G3	S2S3	3	No Photo Available	
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	None	CR	G2	S2	1B.1	No Photo Available	
<i>Limosella australis</i>	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	None	None	G4G5	S2	2B.1	No Photo Available	
<i>Lupinus albifrons var. abramsii</i>	Abrams' lupine	Fabaceae	perennial herb	Apr-Jun	None	None	G5T3?Q	S3?	3.2	No Photo	

									CA	Available
<u>Madia radiata</u> ▲ SCIENTIFIC NAME	showy golden madia COMMON NAME	Asteraceae FAMILY	annual herb LIFEFORM	Mar-May BLOOMING PERIOD	None FED LIST	None STATE LIST	G3 GLOBAL RANK	S3 STATE RANK	RARE PLANT RANK	No Photo Available
<u>Malacothamnus hallii</u>	Hall's bush-mallow	Malvaceae	perennial deciduous shrub	(Apr)May-Sep(Oct)	None	None	G2	S2	1B.2	 © 2017 Keir Morse
<u>Microseris paludosa</u>	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	None	None	G2	S2	1B.2	No Photo Available
<u>Monolopia gracilens</u>	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	None	None	G3	S3	1B.2	No Photo Available
<u>Myosurus minimus ssp. apus</u>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1	No Photo Available
<u>Navarretia gowenii</u>	Lime Ridge navarretia	Polemoniaceae	annual herb	May-Jun	None	None	G1	S1	1B.1	No Photo Available
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1	No Photo Available
<u>Navarretia nigelliformis ssp. radians</u>	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2	S2	1B.2	No Photo Available
<u>Oenothera deltoides ssp. howellii</u>	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	FE	CE	G5T1	S1	1B.1	No Photo Available
<u>Phacelia phacelioides</u>	Mt. Diablo phacelia	Hydrophyllaceae	annual herb	Apr-May	None	None	G2	S2	1B.2	 ©2019 Steve Matson
<u>Plagiobothrys hystriculus</u>	bearded popcornflower	Boraginaceae	annual herb	Apr-May	None	None	G2	S2	1B.1	No Photo Available
<u>Potamogeton zosteriformis</u>	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	None	None	G5	S3	2B.2	No Photo Available
<u>Puccinellia simplex</u>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
<u>Sagittaria sanfordii</u>	Sanford's	Alismataceae	perennial	May-	None	None	G3	S3	1B.2	

	arrowhead		rhizomatous	Oct(Nov)					CA	No Photo
			herb (emergent)						RARE	Available
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE CR	GLOBAL RANK	STATE RANK	PLANT RANK	
<i>Sanicula saxatilis</i>	rock sanicle	Apiaceae	perennial herb	Apr-May	None	G1	G2	S2	1B.2	 © 1998 John Game
<i>Senecio aphanactis</i>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2	No Photo Available
<i>Sidalcea keckii</i>	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	FE	None	G2	S2	1B.1	No Photo Available
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	None	None	G2T2	S2	1B.2	No Photo Available
<i>Streptanthus hispidus</i>	Mt. Diablo jewelflower	Brassicaceae	annual herb	Mar-Jun	None	None	G2	S2	1B.3	No Photo Available
<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	None	None	G5T5	S2S3	2B.2	 Dana York (2016)
<i>Symphiotrichum lentum</i>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	No Photo Available
<i>Triquetrella californica</i>	coastal triquetrella	Pottiaceae	moss		None	None	G2	S2	1B.2	No Photo Available
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	No Photo Available
<i>Viburnum ellipticum</i>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	None	None	G4G5	S3?	2B.3	 © 2006 Tom Engstrom

Showing 1 to 64 of 64 entries

CONTACT US

Send questions and comments to rareplants@cnps.org.

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- [The California Lichen Society](#)
- [California Natural Diversity Database](#)
- [The Jepson Flora Project](#)
- [The Consortium of California Herbaria](#)
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IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Contra Costa County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Salt Marsh Harvest Mouse *Reithrodontomys raviventris* **Endangered**
 Wherever found
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/613>

San Joaquin Kit Fox *Vulpes macrotis mutica* **Endangered**
 Wherever found
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/2873>

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> Wherever found There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Delta Green Ground Beetle <i>Elaphrus viridis</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2319	Threatened
Lange's Metalmark Butterfly <i>Apodemia mormo langei</i> Wherever found There is proposed critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4382	Endangered
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
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Antioch Dunes Evening-primrose *Oenothera deltoides* ssp. *howellii* **Endangered**
 Wherever found
 There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/5970>

Colusa Grass *Neostapfia colusana* **Threatened**
 Wherever found
 There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/5690>

Contra Costa Goldfields *Lasthenia conjugens* **Endangered**
 Wherever found
 There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/7058>

Contra Costa Wallflower *Erysimum capitatum* var. *angustatum* **Endangered**
 Wherever found
 There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/7601>

Keck's Checker-mallow *Sidalcea keckii* **Endangered**
 Wherever found
 There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/5704>

Soft Bird's-beak *Cordylanthus mollis* ssp. *mollis* **Endangered**
 Wherever found
 There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/8541>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Delta Smelt <i>Hypomesus transpacificus</i> https://ecos.fws.gov/ecp/species/321#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A
BREEDING SEASON IS INDICATED
FOR A BIRD ON YOUR LIST, THE
BIRD MAY BREED IN YOUR
PROJECT AREA SOMETIME WITHIN
THE TIMEFRAME SPECIFIED,
WHICH IS A VERY LIBERAL
ESTIMATE OF THE DATES INSIDE
WHICH THE BIRD BREEDS
ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES
 THAT THE BIRD DOES NOT LIKELY
 BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird *Selasphorus sasin*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9637>

Breeds Feb 1 to Jul 15

California Thrasher *Toxostoma redivivum*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Jul 31

Costa's Hummingbird *Calypte costae*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9470>

Breeds Jan 15 to Jun 10

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

Lawrence's Goldfinch *Carduelis lawrencei*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9464>

Breeds Mar 20 to Sep 20

Lewis's Woodpecker *Melanerpes lewis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9408>

Breeds Apr 20 to Sep 30

Nuttall's Woodpecker *Picoides nuttallii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Breeds Apr 1 to Jul 20

Oak Titmouse *Baeolophus inornatus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Breeds Mar 15 to Jul 15

Rufous Hummingbird *selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

Song Sparrow *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any

week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

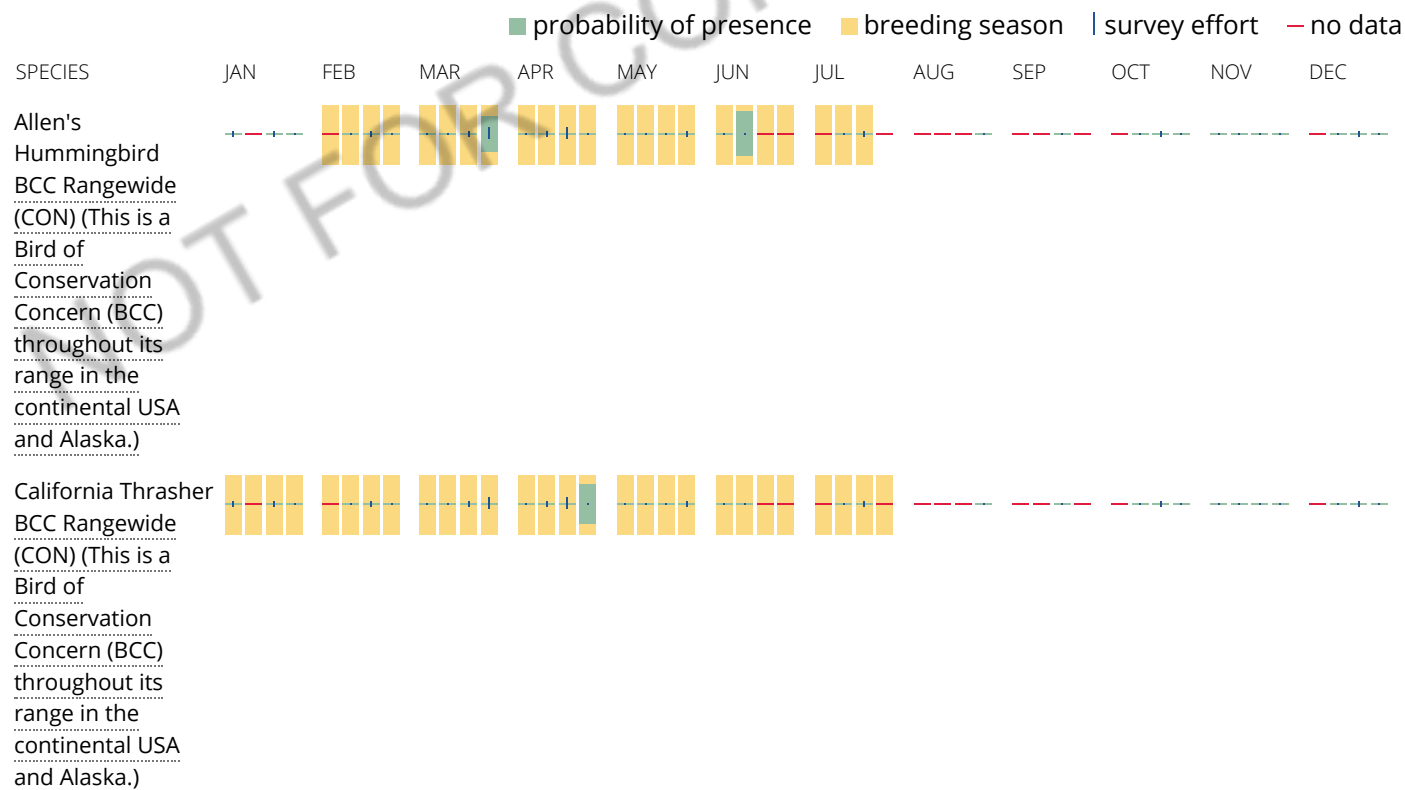
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

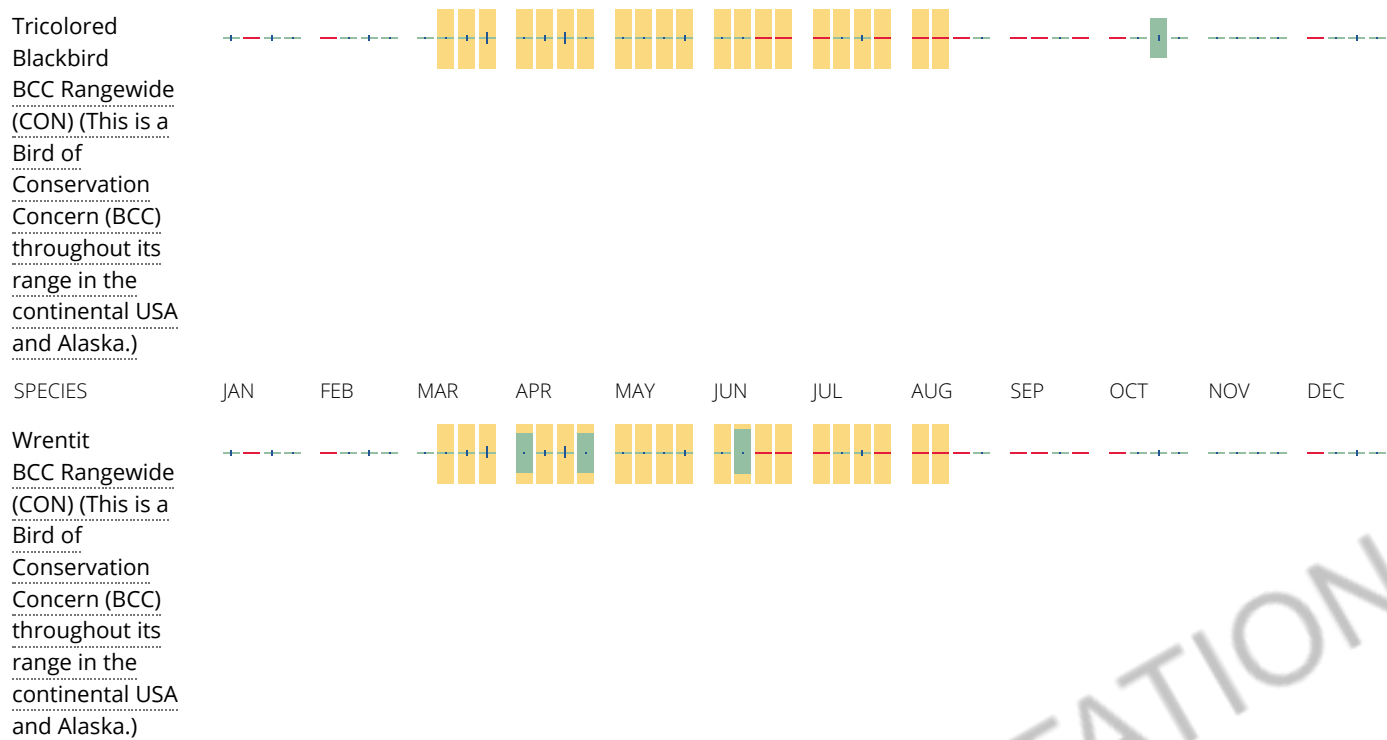
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.









Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Table 1: Special-status Plant Species Evaluated

Scientific Name Common Name	Status			Habitat Description ⁴	Occurrence Determination and Rationale ⁵
	USFWS ¹	CDFW ²	CNPS ³		
<i>Amsinckia grandiflora</i> Large-flowered fiddleneck	FE	SE	1B.1	Cismontane woodland, valley and foothill grassland in various soils. Elevation: 275-550 m. Bloom period: April-May	None: Project site does not contain suitable grassland or cismontane woodland habitat. The project site has been subjected to many years of anthropogenic disturbances. This species was not observed during the field survey.
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	—	—	1B.3	Chaparral, cismontane woodland. In canyons and on slopes; on sandstone. Elevation: 180-565 m. Bloom period: January-March	None: Project site does not contain chaparral or cismontane woodland habitats that support this species.
<i>Blepharizonia plumosa</i> Big tarplant	—	—	1B.1	Valley and foothill grassland. Often in dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. Elevation: 60-505 m. Bloom period: July-October	None: Project site does not contain valley or foothill grassland habitats that support this species. The project site has been subjected to many years of anthropogenic disturbances.
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	—	—	1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. On wooded and brushy slopes. Elevation: 45-915 m. Bloom period: April-June	None: The project site does not contain chaparral, woodland or grassland habitat on wooded or brushy slopes to support this species. This species was not observed during the field survey.
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water-hemlock	—	—	2B.1	Marshes and swamps. In fresh or brackish water. Elevation: 0-20 m. Bloom period: July-September	None: Project site does not contain marshes or swamps that support this species.
<i>Cryptantha hooveri</i> Hoover's cryptantha	—	—	1A	Valley and foothill grassland, inland dunes. In coarse sand. Elevation: 50-365 m. Bloom period: April-May	None: The project site has been subjected to many years of anthropogenic disturbances. No dune habitat is habitat present onsite.
<i>Eriogonum nudum</i> var. <i>psychicola</i> Antioch Dunes buckwheat	—	—	1B.1	Grows on the Antioch Dunes (interior dune system) with <i>Lupinus albifrons</i> , <i>Gutierrezia californica</i> , and introduced grasses and other weeds. Primary host plant for endangered Lange's metalmark butterfly. Elevation: 0-20 m. Bloom period: July-October	None: Project site does not contain dune habitat and is located outside the Antioch Dunes.

Scientific Name Common Name	Status			Habitat Description ⁴	Occurrence Determination and Rationale ⁵
	USFWS ¹	CDFW ²	CNPS ³		
<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. Bloom period: April-September	None: The project site does not contain chaparral, coastal scrub, or valley and foothill grassland habitats. The project site lacks suitable substrates. This species was not observed during the field survey.
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	—	—	1B.2	Vernal pools, valley and foothill grassland on clay soils. Elevation: 3-305 m. Bloom period: April-August	None: Project site does not contain vernal pools, or valley and foothill grassland habitat to support this species. This species was not observed during the field survey.
<i>Erysimum capitatum</i> var. <i>angustatum</i> Contra Costa wallflower	FE	SE	1B.1	Inland dunes. Stabilized dunes of sand and clay near Antioch along the San Joaquin River Elevation: 3-10 m. Bloom period: March-July	None: The project site does not contain suitable habitat to support this species. This species was not observed during the field survey.
<i>Eschscholzia rhombipetala</i> Diamond-petaled California poppy	—	—	1B.1	Valley and foothill grassland. Alkaline, clay slopes and flats. Elevation: 30-625 m. Bloom period: March-April	None: The project site does not contain suitable habitat to support this species.
<i>Helianthella castanea</i> Diablo helianthella	—	—	1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade Elevation: 45-1070 m. Bloom period: March-June	None: Project site does not contain chaparral or oak woodland habitat and does not contain azonal soils or conditions to support this species. This species was not observed during the field survey.
<i>Hesperolinon breweri</i> Brewer's western flax	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soil in chaparral and grassland. Elevation: 195-910 m. Bloom period: May-July	None: The project site does not contain chaparral, cismontane woodland, or valley and foothill grassland and does not contain serpentine soils to support this species. This species was not observed during the field survey.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE	—	1B.1	Vernal pools, swales, low depressions, in open grassy areas. Elevation: 1-450 m. Bloom period: March-June	None: Project site does not contain suitable habitat to support this species. This species was not observed during the field survey.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	—	—	1B.2	Marshes and swamps. In freshwater and brackish marshes, often on marsh and slough edges. Elevation: 0-5 m. Bloom period: May-July	None: Project site does not contain marshes, swamps, or sloughs to support this species. This species was not observed during the field survey.

Scientific Name Common Name	Status			Habitat Description ⁴	Occurrence Determination and Rationale ⁵
	USFWS ¹	CDFW ²	CNPS ³		
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	—	CR	1B.1	Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or riverbank erosion. In brackish or freshwater. Elevation: 0-10 m. Bloom period: April-November	None: The project site does not contain suitable aquatic habitat to support this species. This species was not observed during the field survey.
<i>Limosella australis</i> Delta mudwort	—	—	2B.1	Riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; Elevation: 0-5 m. Bloom period: April	None: The project site lacks riparian habitat, marshes, or swamps to support this species.
<i>Madia radiata</i> Showy golden madia	—	—	1B.1	Valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. Elevation: 75-1220 m. Bloom period: March-May	None: Project site does not contain valley and foothill grassland, cismontane woodland, or suitable substrate to support this species.
<i>Malacothamnus hallii</i> Hall's bush-mallow	—	—	1B.2	Chaparral, coastal scrub. Some populations are found on serpentine. Elevation: 10-735 m. Bloom period: March-September	None: The project site does not contain chaparral or coastal scrub habitat to support this species. This species was not observed during the field survey.
<i>Navarretia nigelliformis ssp. radians</i> Shining navarreita	—	—	1B.2	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation: 60-975 m. Bloom period: April-July	None: The project site does not contain vernal pool habitat. The grasslands present have been subjected to many years of anthropogenic disturbances. This species was not observed during the field survey.
<i>Oenothera deltoides ssp. howellii</i> Antioch Dunes evening-primrose	FE	SE	1B.1	Interior dunes. Remnant river bluffs and sand dunes east of Antioch. Elevation: 1-15 m. Bloom period: March-September	None: The project site does not contain dune habitat to support this species. This species was not observed during the field survey.
<i>Senecio aphanactis</i> Chaparral ragwort	—	—	2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevation: 20-1020 m. Bloom period: January-April	None: The project site does contain chaparral, woodland, or coastal scrub habitat to support this species.

Scientific Name Common Name	Status			Habitat Description ⁴	Occurrence Determination and Rationale ⁵
	USFWS ¹	CDFW ²	CNPS ³		
<i>Symphyotrichum lentum</i> Suisun Marsh aster	—	—	1B.2	Marshes and swamps (brackish and freshwater). Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. Elevation: 0-15 m. Bloom period: March-November	None: The project site does not contain marsh or swamp habitat to support this species. This species was not observed during the field survey.
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	—	—	1B.1	Valley and foothill grassland on alkaline clay Elevation: 0-360 m. Bloom period: March-April	None: The project site does not contain valley or foothill grassland with alkaline soils.
Code Designations					
¹ Federal Status: 2021 USFWS Listing			² State Status: 2021 CDFW Listing		³ CNPS: 2021 CNPS Listing
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the FESA. FT = Listed as threatened under the FESA. FC = Candidate for listing (threatened or endangered) under FESA. FD = Delisted in accordance with the FESA. FPD = Federally Proposed to be Delisted. MBTA = protected by the Migratory Bird Treaty Act — = Not federally listed			SE = Listed as endangered under the CESA. ST = Listed as threatened under the CESA. SSC = Species of Special Concern as identified by the CDFW. FP = Listed as fully protected under FGC. CFG = FGC =protected by FGC 3503.5 CR = Rare in California. — = Not state listed		Rank 1A = Plants species that presumed extinct in California. Rank 1B = Plant species that are rare, threatened, or endangered in California and elsewhere. Rank 2 = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. Rank 3 = Plants about which we need more information—A Review List Rank 4 = Plants of limited distribution—A Watch List Blooming period: Months in parentheses are uncommon.
⁴ Habitat Description: Habitat description adapted from CNDDDB ¹ and CNPS online inventory ² or other specified source*.					
⁵ Potential to Occur and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 5 ³ or other specified source*.					

¹ California Department of Fish and Wildlife (CDFW). 2021. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed July 2, 2021.

² California Native Plant Society (CNPS). 2021. California Native Plant Society Rare and Endangered Plant Inventory. Website: <http://www.rareplants.cnps.org/>. Accessed July 2, 2021.

³ California Department of Fish and Wildlife (CDFW). 2021. Biogeographic Information and Observation System (BIOS 5). Website: <https://map.dfg.ca.gov/bios/>. Accessed July 2, 2021.

Table 2: Special-status Wildlife Species Evaluated

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale ⁴
	USFWS ¹	CDFW ²		
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	FT	ST WL	Found in grassland, oak savanna, edges of mixed woodland and lower elevation coniferous forest. Nocturnal, and fossorial, spending most time underground in animal burrows, especially those of California ground squirrels, valley pocket gophers, and moles. This salamander needs both suitable upland terrestrial habitat with mammal burrows for refuge and temporary breeding ponds in order to survive.	None: The project site does not contain suitable habitat to support this species. The nearest recorded occurrence is located approximately 1.9 miles south of the site within a former stockpond. Dispersal barriers between this occurrence and the project site are present in the form of extensive urban development.
<i>Rana draytonii</i> California red-legged frog	FT	— SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	None: The project site does not contain riparian habitat or other aquatic features that contain permanent water. The nearest recorded occurrence is located approximately 1.7 miles southeast of the site within Markley Canyon Creek. Due to the shallow nature of the creek, it was noted that this occurrence location provided estivation and not breeding habitat. Dispersal barriers between this occurrence and the project site are present in the form of extensive urban development.
Birds				
<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>).	Low: This species is covered under the East Contra Costa County Habitat Conservancy (ECCHC). The project site does contain marginal grassland habitat to support this species. However, no suitable ground squirrel burrow complexes or signs of burrowing owl presence were observed during the June 2021 field survey. The nearest recorded occurrence is located approximately 1.8 miles southeast of the site
<i>Aquila chrysaetos</i> Golden eagle	— MBTA	— FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low: This species is covered under the ECCHC. The project site contains two trees that have the potential to support nesting habitat for golden eagle, although this species often prefers nesting on cliff sides. Other mature trees are present in adjacent urban/landscaped areas and small patches of undeveloped land provide potential foraging habitat within 0.5 mile of the project site. No golden eagles or nests were observed during the June 2021 field survey, either within the project site or the 0.5-mile survey buffer. The nearest recorded occurrence for this species is approximately 5 miles to the southwest of the project site.

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale ⁴
	USFWS ¹	CDFW ²		
<i>Buteo swainsoni</i> Swainson's hawk	— MBTA	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & 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.	Low: This species is covered under the ECCHC. The project site contains two trees that have the potential to support nesting habitat for Swainson's hawk. Other mature trees are present in urban/landscaped areas and small patches of undeveloped land provide potential foraging habitat within 1,000 feet of the project site. No Swainson's hawks or nests were observed during the June 2021 field survey, either within the project site or the 1,000-foot survey buffer. The nearest recorded occurrence for this species is approximately 5 miles to the east of the project site.
<i>Elanus leucurus</i> white-tailed kite	— MBTA	— FP	Preferred habitat includes rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Forages in open grasslands, meadows, or marshes. Often found perching and nesting in isolated, dense-topped trees.	Low. The project site contains trees that provide marginal nesting habitat. The general vicinity of the project site contains pockets of grassland habitat for foraging. Nearest recorded occurrence is 2.2 miles northeast of the project site.
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	— MBTA	— SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	None: The project site does not contain aquatic features including fresh or saltwater marshes to support this species.
<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. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	None: The project site does not contain aquatic features including freshwater or saltwater marshes, or wet meadows to support this species.
<i>Melospiza melodia</i> Song sparrow	— MBTA	— SSC	Inhabits emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets. Needs moderately dense vegetation to supply cover for nests.	None: The project site does not contain riparian vegetation or aquatic features including marshes to support this species.
<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 Salicornia; also known to frequent tangles bordering sloughs.	None: The project site does not contain hydrophytic vegetation or aquatic features including marshes to support this species.

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale ⁴
	USFWS ¹	CDFW ²		
<i>Phalacrocorax auritus</i> Double-crested cormorant	— MBTA	—	Requires large water bodies big enough to support their mostly fish diet. However, they may roost and form breeding colonies on smaller lagoons or ponds. In addition to fishing waters, cormorants need high, airy perches to dry off and digest their meals (rocks, wires, tops of dead trees, ship masts). This species tend to form breeding colonies in clusters of trees in or near water. Nests can be on the ground, on rocks or reefs with no vegetation, or atop trees.	None: The project site does not contain suitable large water bodies capable of supporting this species.
<i>Sternula antillarum browni</i> California least tern	FE MBTA	SE FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	None: The project site does not contain coastal habit including sand beaches, or alkali flats to support this species.
Fish				
<i>Hypomesus transpacificus</i> Delta smelt	FT	SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Usually found in water with salinities < 2ppt.	None. The project site does not contain suitable aquatic habitat to support this species.
<i>Oncorhynchus mykiss irideus</i> (pop. 11) steelhead (central valley coast DPS)	FT	—	This population occurs in the Sacramento and San Joaquin rivers and their tributaries. Require cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer. Minimum water depth for upstream migration is 18 cm. Water velocities greater than 3-4 m/sec may impede upstream progress.	None: The project site does not contain suitable aquatic habitat to support this species.
<i>Spirinchus thaleichthys</i> Longfin smelt	FC	ST	Found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities between 15 and 30 ppt, but can also be found in either fresh or saltwater.	None: The project site does not contain suitable aquatic habitat to support this species.
Invertebrates				
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	FE	—	Inhabits stabilized dunes along the San Joaquin River. Endemic to Antioch Dunes, Contra Costa County. Primary host plant is <i>Eriogonum nudum var auriculatum</i> ; feeds on nectar of other wildflowers, as well as host plant.	None: The project site does not contain dune habitat or floral resources to support this species.

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale ⁴
	USFWS ¹	CDFW ²		
<i>Bombus crotchii</i> Crotch bumble bee	—	CE	Grassland and scrub areas, requiring a hotter and drier environment than other bumblebee species, and can only tolerate a very narrow range of climatic conditions. Nests underground, often in abandoned rodent dens	None: The project site does not contain suitable grassland and scrub areas to support this species.
<i>Bombus occidentalis</i> Western bumble bee	—	CE	Formerly found in large parts of California but has been reduced in abundance and is now mostly restricted to high meadows or coastal environments. Species requires floral resources, and undisturbed nest and overwintering sites.	None. The project site does not contain suitable high meadows or coastal environments, floral resources, and undisturbed nest sites 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.	None: The project site does not contain suitable aquatic features, including vernal pools, swales, or depressions to support this species.
Mammals				
<i>Lasiurus blossevillii</i> Western red bat	—	SSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Low: The project site contains two trees that provide marginal roosting habitat. The nearest recorded occurrence for this species is located approximately 4 miles to the east of the project site within the City of Antioch.
<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.	None: The project site does not contain saline emergent wetlands with associated pickleweed to support this species.
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE	ST	Found in annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	None: The project site does not suitable habitat to support this species and is cut off from natural San Joaquin kit fox habitat by extensive urban development and high use traffic corridors. The site lacks the proper substrate including loose-textured sandy soils due to previous disturbances. The nearest recorded occurrence for this species is located 3 miles to the south of the project site. Moreover, the project site is not mapped within the “Suitable Core Habitat” or the “Suitable Low Use Habitat” as referenced in Appendix D of the ECCHC.

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale ⁴
	USFWS ¹	CDFW ²		
Reptiles				
<i>Anniella pulchra</i> Northern California legless lizard	—	SSC	Sandy or loose loamy soils under sparse vegetation with chaparral, coastal dunes, and scrub. Soil moisture is essential. They prefer soils with a high moisture content	None: The project site does not contain chaparral, coastal dune, or scrub habitats and is cut off from natural Northern California legless lizard habitat by extensive urban development. Soils on site are highly compacted through previously disturbances. The nearest recorded occurrence is approximately 3 miles north of the project site from 1941 in an area composed of formerly undeveloped grasslands.
<i>Arizona elegans occidentalis</i> California glossy snake		SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	None: The project site does not contain grassland or scrub habitats and is cut off from natural California glossy snake habitat by extensive urban development. The nearest recorded occurrence is approximately 4.4 miles northeast of the project site within the Antioch Dunes.
<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.	None: The project site does not contain aquatic features to support this species. The project site is surrounded by extensive urban development precluding the presence of this species.
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	FT	ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	None: The project site does not contain suitable habitat and the project site is cut off from natural Alameda whipsnake habitat by extensive urban development.

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

⁴ California Department of Fish and Wildlife (CDFW). 2021. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed July 2, 2021.

⁵ California Department of Fish and Wildlife (CDFW). 2021. Biogeographic Information and Observation System (BIOS 5). Website: <https://map.dfg.ca.gov/bios/>. Accessed July 2, 2021.