Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS ¹	General Habitat	Potential to Occur
	Species	s Listed or Proposed for Listing	7.
ANIMALS			
Fish			
Southern DPS green sturgeon Acipenser medirostris	FT/CSC	Inhabit near-shore marine waters from Mexico to the Bering Sea. Utilize the waters of the Delta for juvenile rearing, adult holding, and migratory movements to and from Upper Sacramento River spawning grounds.	Low. Planning Area lacks suitable habitat.
Tidewater goby Eucyclogobius newberryi	FE/CSC	Shallow waters of bays and estuaries, in lower stream reaches, in coastal stream lagoons.	Low. Thought to be extirpated from San Francisco Bay (Moyle, 2002).
Delta smelt Hypomesus transpacificus Critical Habitat designated	FT/CT	Shallow, open waters of the estuary where salinities range from 2-7 ppt. Spawn and rear in sloughs and shallow edge waters of channels in upper Delta and Sacramento River, Suisun Marsh and Bay.	Low. Planning Area lacks suitable habitat.
California Central Valley steelhead Oncorhynchus mykiss Critical Habitat designated	FT/CSC	Spawns and rears in the Sacramento/ San Joaquin River systems and tributaries where gravelly substrate and shaded riparian habitat occurs.	Low. Planning Area lacks suitable habitat.
Sacramento winter-run Chinook salmon Oncorhynchus tshawytscha Critical Habitat designated	FE/CE	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	Low. Planning Area lacks suitable habitat.
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i> Critical Habitat designated	FT/CT	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	Low. Planning Area lacks suitable habitat.
Amphibians			
California tiger salamander Ambystoma californiense	FT/CSC	Seasonal freshwater ponds with little or no emergent vegetation. Utilizes mammal burrows in upland habitat for aestivation during the dry season.	Low. Marginally suitable habitat present in and along East Antioch Creek. Not identified during RCL Ecology's protocol site assessments for this species conducted in a 280 acre portion of the Planning Area (RCL, 2005), nor during Live Odak Associates' amphibian surveys (2008). There is a 1983 CNDDB record that includes the western portion of the Planning Area, and several others within five miles of the Planning Area (CDFG, 2008).

 $^{^{\}mbox{\scriptsize 1}}$ Key to listing status codes can be found at the end of Table1.

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Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS ¹	General Habitat	Potential to Occur
California red-legged frog <i>Rana draytonii</i>	FT/CSC	Breed in stock ponds, pools, and slow-moving streams.	Low. Potentially suitable aquatic habitat present in East Antioch Creek, but not identified during RCL Ecology's protocol site assessments for this species conducted in a portion (280 acres) of the Planning Area (RCL, 2005), or during Live Oak Associates' 11 surveys for this species (2008). There are five CNDDB records within five miles of the Planning Area (CDFG, 2008).
Reptiles			
Alameda whipsnake Masticophis lateralis euryxanthus	FT/CT	Preferred habitat a mosaic of open coastal scrub or chaparral and grassland with rocky outcrops.	Low. Suitable habitat is not present within the Planning Area.
Giant garter snake Thamnophis gigas	FT/CT	Freshwater marsh and slow streams.	Low. Only marginal suitable habitat is present for this species along East Antioch Creek. No recent records of this species within five miles of Planning Area (CDFG, 2008) – most suitable habitat in eastern Contra Costa County lies east of the Planning Area (Jones & Stokes, 2006). Not observed during Live Oak Associates' 2008 surveys for this species.
Birds			
Swainson's hawk Buteo swainsoni	/CT	Nests in oaks or cottonwoods in or near riparian habitat. Forages in grasslands and agricultural fields.	Present. Live Oak Associates observed this species nesting in the Planning Area (2008), and three recent records of this species less than five miles east/southeast of the Planning Area (CDFG, 2008).
California black rail Laterallus jamaicensis coturniculus	/CT	Salt marshes along large bays, also freshwater marshes.	Low. Planning Area lacks suitable habitat.
California clapper rail Rallus longirostrus obsoletus	FE/CE	Salt-water and brackish marshes with tidal sloughs.	Low. Planning Area lacks suitable habitat.
Bank swallow <i>Riparia riparia</i> (nesting colonies only)	/CT	Colony nester on sandy cliffs near water, marshes, lakes, streams, the ocean. Forages in fields.	Low. Planning Area lacks suitable habitat.
Invertebrates			
Lange's metalmark butterfly Apodemia mormo langei	FE/	Feeds on naked buckwheat (Eriogonum nudum ssp. auriculatum) in sandy deposits at Antioch Dunes.	Low. Sole larval food plant, naked buckwheat, was not identified in portion of the Planning Area surveyed by Entomological Consulting biologists (2005).
Conservancy fairy shrimp Branchinecta longiantenna	FE/	Muddy substrate at edges of vernal pools between Jepson Prairie and Travis AFB.	Low. Planning Area lacks suitable habitat.
Longhorn fairy shrimp Branchinecta longiantenna	FE/	Rock pools and vernal pools.	Low. Planning Area lacks suitable habitat.
Vernal pool fairy shrimp Branchinecta lynchi	FT/	Grassland vernal pools.	Low. Planning Area lacks suitable habitat.

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS ¹	General Habitat	Potential to Occur
Valley elderberry longhorn beetle Desmocerus californicus dimorphus	FT/	Associated with elderberry (Sambucus ssp.), from Shasta/Tehama County south to Caliente Creek in Kern County.	Low to Moderate. Elderberry food plants are present in the southeast portion of the Planning Area, although the range of this species is not presumed to extend this far west.
Delta green ground beetle Elaphrus viridus	FT/	Muddy substrate at edges of vernal pools between Jepson Prairie and Travis AFB.	Low. Planning Area lacks suitable habitat.
Vernal pool tadpole shrimp Lepidurus packardi	FE/	Vernal pools.	Low. Planning Area lacks suitable habitat.
Mammals			
Salt marsh harvest mouse Reithrodontomys raviventris	FE/CE	Saline emergent wetlands of San Francisco Bay and tributaries.	Low. Planning Area lacks suitable habitat.
San Joaquin kit fox Vulpes macrotis mutica	FE/CT	Annual grasslands or open scrublands with loose textures soils for burrowing and suitable prey base.	Low. Planning Area is north of known range for this species, and isolated from other potential suitable habitat. The closest CNDDB record is a 1995 occurrence approximately 2.5 miles SW of the Planning Area (CDFG, 2008). Live Oak Associates did not observe this species during 2008 surveys in the Planning Area.
PLANTS			-
Large-flowered fiddleneck Amsinckia grandiflora	FE/CE/1B.1	Cismontane woodland, valley and foothill grassland. Known from only three natural occurrences in eastern Contra Costa County (CNPS 2005).	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Soft bird's-beak Cordylanthus mollis ssp. mollis	FE/Rare/1B.2	Coastal salt marsh. Known from fewer than fifteen occurrences.	Low. Planning Area lacks suitable habitat.
Contra Costa wallflower Erysimum capitatum var. angustatum	FE/CE/1B.1	Sandy areas at Antioch Dunes.	Low. Sandy areas of the Planning Area represent potentially suitable habitat. But they are devoid of most native vegetation as a result of disturbance from past agricultural practices, sand mining, offroading, disking, and development. All records for this species are restricted to Antioch Dunes, 0.75 miles north of the Planning Area.
Contra Costa goldfields Lasthenia conjugens	FE//1B.1	Moist grasslands, vernal pools, cismontane woodlands, alkaline playas.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Colusa grass Neostapfia colusana	FT/CE/1B.1	Vernal pools.	Low. Planning Area lacks suitable habitat.
Antioch Dunes evening-primrose Oenothera deltoids ssp. howellii	FE/CE/1B.1	Interior dunes and river bluffs.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
	Ot	her Special Status Species	
ANIMALS			
Invertebrates			
Ciervo aegialian scarab beetle Aegialia concinna	FSC/	Found in association with roots of native shrubs and grasses in sand deposits.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Unlikely to occur in the Planning Area, because the undeveloped sandy areas are degraded, with few to no indigenous plants (Entomological Consulting, 2005).
Antioch Dunes anthicid beetle Anthicus antiochensis	FSC/	Loose sands at Antioch Dunes, and along the Sacramento and Feather Rivers.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG< 2008). Loose sands in the Planning Area are poor habitat for these species, due to past disturbance such as disking and off-road vehicle use (Entomological Consulting, 2005).
Sacramento anthicid beetle Anthicus sacramento	FSC/	Loose sands in the San Joaquin-Sacramento Delta region.	Low. Loose sands in the Planning Area are poor habitat for these species, due to past disturbance such as disking and off-road vehicle use (Entomological Consulting, 2005).
Midvalley fairy shrimp Branchinecta mesovallensis	FSC/	Vernal pools in Sacramento, Solano, Merced, Madera, San Joaquin, Fresno, and Contra Costa Counties.	Low. Planning Area lacks suitable habitat.
San Joaquin dune beetle Coelus gracilis	FSC/	Inhabits fossil dunes and sites with other sandy substrates along the western edge of the San Joaquin valley.	Low. Unlikely to occur in the Planning Area, because the undeveloped sandy areas are degraded, with few to no indigenous plants (Entomological Consulting, 2005).
Antioch cophuran robberfly Cophura hurdi	FSC/	Sand dunes at Antioch Dunes.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Undeveloped sandy areas are potential habitat for this species, but this habitat is so degraded that native sand flora and prey species are not likely present (Entomological Consulting, 2005).
Antioch efferian robberfly Efferia antiochi	FSC/	Sand dunes in Contra Costa County (Antioch Dunes) and Fresno County (Fresno).	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Undeveloped sandy areas are potential habitat for this species, but this habitat is so degraded that native sand flora and prey species are not likely present (Entomological Consulting, 2005).
Redheaded sphecid wasp Eucerceris ruficeps	/	Nests in sand in the Delta and foothills of the Central Valley, but primarily found in Antioch Dunes. Feeds on weevils (Sitona and Dysticheus ssp.).	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Potential sandy areas in the Planning Area are poor quality habitat due to past disturbances, including disking, development, agricultural activities, and sand mining (Entomological Consulting, 2005).

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Bridge's coast range shoulderband snail Helminthoglypta nickliniana bridgesi	FSC/	Found in tall grasses and weeds on open grassy hillsides. Hides under downed branches, logs, and other woody debris.	Low. Site topography not suitable, and no known occurrences of this species within five miles of the Planning Area (CDFG, 2008).
Curved-foot <i>Hygrotus</i> diving beetle <i>Hygrotus curvipes</i>	FSC/	Mineralized pools, stock ponds, ponds, or pools in intermittent streams. Distribution is bounded by the Outer Coast Ranges and San Joaquin Delta, in eastern Contra Costa and Alameda Counties.	Low. Not observed in water samples of East Antioch Creek. In addition, sandy soils beneath Planning Area's seasonal wetlands make their hydroperiods brief, and unsuitable for this species (Entomological Consulting, 2005).
Middlekauf's shieldback katydid Idiostatus middlekaufi	FSC/	Various shrubs indigenous to Antioch Dunes.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Not seen in several decades. Associated with various dune indigenous shrubs, which are absent from or quite limited in their occurrence in the Planning Area (Entomological Consulting, 2005).
California linderiella fairy shrimp Linderiella occidentalis	FSC/	Seasonal pools in intact grasslands where alluvial soils are underlaid by hardpan or in sandstone depressions.	Low. Planning Area lacks suitable habitat.
Molestan blister beetle Lytta molesta	FSC/	Inhabits vernal pool vegetation in the Central Valley of California; from Contra Costa to Kern and Tulare Counties.	Low. Suitable habitat in the Planning Area is highly disturbed by activities such as disking and lacks native vegetation. In addition, past disturbance reduced the likelihood of ground nesting bees, many of which are associated with vernal pool species that are not present (Entomological Consulting, 2005).
Hurd's metapogon robberfly Metapogon hurdi	FSC/	Antioch Dunes and Fresno County.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Undeveloped sandy areas are potential habitat for this species, but this habitat is so degraded that native sand flora and prey species are not likely present (Entomological Consulting, 2005).
Antioch mutillid wasp Myrmulosa pacifica	FSC/	Ground nester in sandy areas, such as that present at Antioch Dunes.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Suitable habitat in the Planning Area is low quality for ground nesting, due to past disturbance from development, sand mining, and agricultural activities (Entomological Consulting, 2005).
Antioch andrenid bee Perdita scituta antiochensis	FSC/	Sandy areas, such as those found at Antioch Dunes.	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Undeveloped sandy areas represent potential habitat for this species. But it is unlikely to occur in the Planning Area due to the Site's degraded nature, history of disturbance (e.g. disking), and lack of preferred adult food plants (especially <i>Eriogonum</i> and <i>Gutierrezia</i>) (Entomological Consulting, 2005).

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Yellow-banded andrenid bee Perditia hirticeps luteocincta	FSC/	Sandy areas, such as those found at Antioch Dunes.	Low. Undeveloped sandy areas represent potential habitat for this species. But it is unlikely to occur in the Planning Area due to the Site's degraded nature, history of disturbance (e.g. disking), and lack of preferred adult food plants (especially <i>Eriogonum</i> and <i>Gutierrezia</i>) (Entomological Consulting, 2005).
Antioch sphecid wasp Philanthus nasalis	FSC/	Antioch Dunes (though feared extinct here).	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Potential sandy areas in the Planning Area are poor quality habitat due to past disturbances, including disking, development, agricultural activities, and sand mining (Entomological Consulting, 2005).
Antioch Dunes halcitid bee Sphecodogastra antiochensis	/	Found in Antioch Dunes, associated with host plant, the Antioch Dunes evening-primrose (Oenothera deltoides var. howellii).	Low. CNDDB records at Antioch Dunes, 0.75 miles north of the Planning Area (CDFG, 2008). Unlikely to occur in Planning Area's sandy areas, due to its degraded quality from disturbance (disking, agricultural practices, sand mining, and offroad vehicle use), and lack of native vegetation.
Fish			
Sacramento perch Archoplites interruptus	/CSC	Tidal waters, freshwater lower-elevation pools in slow moving streams, and floodplain lakes, often with emergent vegetation.	Low. Species is thought to be extinct throughout most of its native range.
Reptiles			
Silvery legless lizard Aniella pulchra pulchra	FSC/CSC	Sandy or loose loamy soils in areas with sparse vegetation.	Low. Antioch is the northern limit of this species' range. While the sandy areas in the northeast portion of the Planning Area may have historically had suitable habitat for this species, mining activities would likely have extirpated it from the site. 2004 CNDDB records of this species 1.4 miles E of the Planning Area (CDFG, 2008). Not identified during Live Oak Associates' 2008 surveys for this species.
Western pond turtle Actinemys (= Emys) marmorata	FSC/CSC	Freshwater ponds and slow streams edged with sandy soils for laying eggs.	Low. Aquatic habitat available in East Antioch Creek, although not identified during previous biological surveys of the Planning Area (Live Oak Associates, 2008; RCL, 2005). There is a 1998 CNDDB record approximately 2.5 miles NW of the Planning Area (CDFG, 2008).
Birds			
Tricolored blackbird Agelaius tricolor	FSC/CSC	Nests in large colonies (usually at least 50 pairs), in riparian thickets and emergent vegetation.	Low. Large colonies are conspicuous, but were not identified in 2005 biological surveys in a portion of the Planning Area (RCL, 2005).

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Great egret Ardea alba	/* Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Low. Suitable habitat not present in Planning Area. No nesting colonies reported in Project Vicinity.
Great blue heron Ardea herodias	/* Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Low. Suitable habitat not present in Planning Area. No nesting colonies reported in Project Vicinity.
Short-eared owl Asio flammeus	/CSC, 3503.5	Fresh water and salt marshes and swamps, lowland meadows, irrigated fields.	Low. Within the Planning Area, potential suitable habitat is sparse, and of low quality.
Burrowing owl Athene cunicularia	/CSC, 3503.5	Nests and forages in low- growing grasslands that support burrowing mammals.	Present. CNDDB has 2003 and 2005 records within 0.25 miles of the Planning Area (CDFG, 2008). But only marginally suitable grassland habitat present, with tall herbaceous layer and scarce suitable burrows. This species was not detected during protocol-level surveys in a 280 acre portion of the Planning Area (RCL, 2005), but they may move into the site before Project construction begins.
Great horned owl Bubo virginianus	/3503.5	Often uses abandoned nests of corvids or squirrels; nests in large oaks, conifers, eucalyptus.	Moderate. Suitable habitat is present in Planning Area, particularly near the large pond along East Antioch Creek.
Red-tailed hawk Buteo jamaicensis	/3503.5	Usually nests in large trees, often in woodland or riparian deciduous habitats.	Present. Red-tailed hawk nest was observed in a Peruvian peppertree in the Planning Area (RCL, 2005).
Northern harrier Circus cyaneus	/CSC	Mostly nests in emergent vegetation, wet meadows or near rivers and lakes, but may nest in grasslands away from water.	Moderate. Suitable nesting and foraging habitat is present in Planning Area.
Snowy egret Egretta thula	/* Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Low. Planning Area lacks suitable habitat.
White-tailed kite Elanus leucurus	FSC/Fully Protected	Nests in trees adjacent to grasslands, forages over grasslands and agricultural lands.	High. Observed foraging in the area during ESA's 2008 reconnaissance survey. 2004 CNDDB record for this species, approximately 1.5 miles east of the Planning Area (CDFG, 2008).
Salt-marsh common yellowthroat Geothlypis trichas sinuosa	FSC/CSC	Inhabits tidal salt and brackish marshes in winter, but breeds in freshwater to brackish marshes and riparian woodlands during spring to early summer.	Moderate. PBRO records shown high distribution and breeding in Suisun Bay region. Could be present in Planning Area's wetlands.
Loggerhead shrike Lanius Ludovicianus	FSC/CSC	Nests in shrublands and forages in open grasslands.	Moderate. Suitable nesting and foraging habitat is present in Planning Area. Recent CNDDB occurrence less than five miles east of the Planning Area (CDFG, 2008).

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Suisun song sparrow Melospiza melodia maxillaris	/CSC	Brackish water marshes and sloughs with cattails, tules, and pickleweed.	Low. Planning Area lacks suitable habitat.
Black-crowned night heron <i>Nycticorax nycticorax</i>	/* Rookeries only	Various wetland habitats, including salt, brackish, and freshwater marshes, swamps, streams, lakes, and agricultural fields. Nest in large trees, often with other herons or egrets.	Low. No nesting colonies reported in Project Vicinity.
Double-crested cormorant Phalacrocorax auritus	/	Nests along coast on isolated islands or in trees along lake margins.	Low. No nesting colonies reported in Project Vicinity.
Mammals			
Pallid bat Antrozous pallidus	FSC/CSC	Pallid bat occurs in various habitats including grasslands, scrubs, woodlands, mixed conifer forests, but it is most common in open, dry habitats with rocky areas for roosting. Day roosts include hollow trees, buildings, caves, crevices, and mines.	Moderate. Potential roosting habitat may be available in trees or old buildings on or within the vicinity of the Planning Area.
Townsend's big-eared bat Corynorhinus townsendii	FSC/CSC	Inhabits a variety of habitats, requires caves or man-made structures for roosting.	Moderate. Potential roosting habitat may be available in trees or old buildings on or within the vicinity of the Planning Area.
Western red bat Lasiurus blossevillii	/CSC	Roosts in tree or shrub foliage. Day roosts are commonly in edge habitats adjacent to streams or open fields in orchards, and sometimes open areas. Associated with intact riparian habitat (particularly willows, cottonwoods, and sycamores).	Moderate. May roost in riparian trees along East Antioch Creek.
Hoary bat <i>Lasiurus cinereus</i>	/	Prefers open habitats or habitat mosaics, with trees for cover and open areas or habitat edges for feeding. Prefers to roost in dense foliage of medium to large trees.	Moderate. May roost in tree foliage in or near the proposed Planning Area.
Long-eared myotis Myotis evotis	FSC/	Inhabits woodlands and forests up to approximately 8,200 feet in elevation; roosts in crevices and snags.	Moderate. Potential roosting habitat may be available in trees or old buildings on or within the vicinity of the Planning Area.
Fringed myotis Myotis thysanodes	FSC/	Inhabits a variety of woodland habitats, roosts in crevices or caves, and forages over water and open habitats.	Moderate. Potential roosting habitat may be available in trees or old buildings on or within the vicinity of the Planning Area.

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Long-legged myotis Myotis volans	FSC/	Inhabits forests and woodland habitats, primarily oak and juniper woodlands.	Moderate. Potential roosting habitat may be available in trees or old buildings on or within the vicinity of the Planning Area.
Yuma myotis Myotis yumanensis	FSC/	Open forests and woodlands below 8,000 feet in close association with water bodies.	Moderate. Potential roosting habitat may be available in trees or old buildings on or within the vicinity of the Planning Area.
San Joaquin pocket mouse Perognathus inornatus inornatus	/	Inhabits grassland and scrub habitats in Central and San Joaquin Valleys.	Low. Previous records of this species are mostly from foothills that are south of the Planning Area. But there is a 1994 CNDDB record approximately 4 miles SW of the proposed Project (CDFG, 2008).
American badger <i>Taxidea taxus</i>	/CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Low. Suitable habitat is not present in the Planning Area.
PLANTS			
Bent-flowered fiddleneck Amsinckia lunaris	//1B.2	Coastal bluff scrub, valley and foothill grassland.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species.
Slender silver moss Anomobryum julaceum	//2.2	Broadleafed upland forest, lower montane coniferous forest, and north coast coniferous forest/damp rock and soil on outcrops (usually on roadcuts).	Low. Suitable habitat is not present in the Planning Area.
Mt. Diablo manzanita Arctostaphylos auriculata	//1B.3	On sandstone in chaparral.	Low. Suitable habitat is not present in Planning Area.
Alkali milk-vetch Astragalus tener var. tener	//1B.2	Adobe clay soils in valley and foothill grassland.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species.
Heartscale Atriplex cordulata	//1B.2	Chenopod scrub, meadows and seeps, valley and foothill grasslands.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species.
Brittlescale Atriplex depressa	//1B.2	Chenopod scrub, meadows, playas, valley and foothill grassland, vernal pools, often in alkaline situations.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species. Suitable habitat and known occurrences in Eastern Contra Costa County are all south of the Planning Area (Jones & Stokes, 2006).
San Joaquin spearscale Atriplex joaquiniana	//1B.2	Alkaline soils in chenopod scrub, meadows, playas, valley and foothill grassland.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Big-scale balsamroot Balsamorhiza macrolepis var. macrolepis	//1B.2	Cismontane woodland, valley/foothill grassland, sometimes on serpentinite. Occurs from the Bay Area to the northern Sacramento Valley and Sierra foothills.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Big tarplant <i>Blepharizonia plumosa</i>	//1B.1	Sometime on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a 280 acre portion of the Planning Area (RCL, 2005). Within eastern Contra Costa County, suitable habitat and known occurrences for this is generally south of the Planning Area (Jones & Stokes, 2006). However, there is a 2000 CNDDB record approximately 2 miles SW of the Planning Area (CDFG, 2008).
Round-leaved filaree California macrophylla (=Erodium macrophyllum)	//1B.1	Cismontane woodland, valley and foothill grassland.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Mt. Diablo fairy-lantern Calochortus pulchellus	//1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland.	Low. Suitable habitat not present in Planning Area.
Hoover's cryptantha Cryptantha hooveri	//1A	Sandy soils in valley and foothill grassland.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species. Presumed extinct in CA – last seen in 1939 (CNPS, 2008).
Dwarf downingia <i>Downingia pusilla</i>	//2.2	Mesic sites in valley and foothill grassland, vernal pools, Not known form Contra Costa County.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species. No vernal pool habitat present.
Mt. Diablo buckwheat Eriogonum truncatum	//1B.1	Sandy soils in chaparral, coastal scrub, and valley and foothill grassland.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species. Presumed extinct in California (CNPS, 2008).
Diamond-petaled California poppy Eschscholzia rhombipetala	//1B.1	Alkaline areas and clay soils in valley and foothill grassland.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Fragrant fritillary <i>Fritillaria liliacea</i>	FSC//1B.2	Coastal prairie and scrub, grasslands, often on serpentine soils; 10 to 1350 feet.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species.
Diablo helianthella Helianthella castanea	//1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	Low. Suitable habitat is not present in Planning Area.
Brewer's western flax Hesperolinon breweri	FSC//1B.2	Often in rocky serpentine soils in chaparral and grasslands, also cismontane woodland.	Low. Suitable habitat is not present in Planning Area.
Wooly rose-mallow Hibiscus lasiocarpus	//2.2	Marshes and swamps.	Low. Range is generally east of the Planning Area.
Carquinez goldenbush Isocoma arguta	//1B.1	Valley and foothill grassland, alkaline soils, flats.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species.

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential to Occur
Delta tule pea Lathyrus jepsonii var. jepsonii	//1B.2	Freshwater and brackish marshes and swamps, usually on marsh and slough edges.	Low. Planning Area's vegetation is highly disturbed, and dominated by non-native species. No recent CNDDB records in Project Vicinity (CDFG, 2008).
Mason's lilaeopsis Lilaeopsis masonii	FSC//1B.1	Marshes and swamps, and riparian scrub.	Low. Planning Area's vegetation is highly disturbed, and dominated by non-native species. No recent CNDDB records in Project Vicinity (CDFG, 2008).
Delta mudwort Limosella subulata	//2.1	On mud banks in freshwater and brackish marshes and swamps, riparian scrub.	Low. Planning Area's vegetation is highly disturbed, and dominated by non-native species. No recent CNDDB records in Project Vicinity (CDFG, 2008).
Showy madia <i>Madia radiata</i>	//1B.1	Often on adobe clay in cismontane woodland, valley and foothill grassland.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Hall's bush mallow Malacothamnus hallii	//1B.2	Chaparral, coastal scrub.	Low. Suitable habitat not present in Planning Area.
Bearded popcorn-flower Plagiobothrys hystriculus	//1A	Valley and foothill grasslands, vernal pools, and vernal swales.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Eel-grass pondweed Potamogeton zosteriformis	//2.2	Assorted freshwater marshes and swamps. Known from Contra Costa, Lake, Modoc, Lassen, and Shasta Counties in Oregon.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Blue skullcap Scutellaria lateriflora	//2.2	Mesic meadows, marshes, and swamps. Reported from two occurrences in California, in Inyou and San Joaquin Counties.	Low. No records known for this species near the Planning Area.
Chaparral ragwort Senecio aphanactis	//2.2	Alkaline flats in coastal scrub, chaparral, cismontane woodland.	Low. Vegetation in the Planning Area is highly disturbed, and this species was not detected during 2005 rare plant surveys conducted in a portion of the Planning Area (RCL, 2005).
Suisun marsh aster Symphyotrichum lentum (=Aster lentus)	//1B.2	Marshes and swamps (brackish and freshwater).	Low. Suitable habitat not present in the Planning Area.
Caper-fruited tropidocarpum Tropidocarpum capparideum	FSC//1B.1	Alkaline hills, grasslands.	Low. Highly disturbed grasslands on Planning Area offer only marginal habitat for this species. Believed to be extirpated from Contra Costa County (CNDDB, 2008).

STATUS CODES:

FEDERAL: (U.S. Fish and Wildlife Service)

FE = Listed as Endangered (in danger of extinction) by the Federal Government.

FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.

FP = Proposed for Listing as Endangered or Threatened.

FC = Candidate to become a proposed species.

FSC = former Federal Species of Concern. Species designated as such were listed by the Sacramento FWS office until 2006, when they stopped maintaining their list. These species are still considered to be at-risk species by other federal and state agencies, as well as various organizations with recognized expertise such as the Audubon Society.

MMPA = Marine Mammal Protection Act

STATE: (California Department of Fish and Game)

CE = Listed as Endangered by the State of California

CT = Listed as Threatened by the State of California

CR = Listed as Rare by the State of California (plants only)

CSC = California Species of Special Concern

3503.5=Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls)

*Special animal—listed on CDFG's Special Animals List

California Native Plant Society

List 1A=Plants presumed extinct in California

List 1B=Plants rare, Threatened, or Endangered in California and elsewhere

List 2= Plants rare, Threatened, or Endangered in California but more common elsewhere

List 3= Plants about which more information is needed

List 4= Plants of limited distribution

An extension reflecting the level of threat to each species is appended to each rarity category as follows:

- .1 Seriously endangered in California
- .2 Fairly endangered in California
- .3 Not very endangered in California

SOURCES: CDFG, 2008; CNPS, 2008; ENTOMOLOGICAL CONSULTING, 2005; JONES & STOKES, 2006; LIVE OAK ASSOCIATES, 2008; RCL, 2005; USFWS, 2008;