

Appendix D

Biological Resources Special- Status Species with Potential to Occur

**TABLE D-1
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA**

Common Name Scientific Name	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Plants				
Ferris' milk-vetch <i>Astragalus tener</i> var. <i>Ferrisiae</i>	--/--/1B.1	Annual herb found in meadows and seeps (vernally mesic), valley and foothill grassland, which is occasionally subalkaline flats, from 7 to 250 feet.	Blooming period: April – May.	None. While the annual grassland provides habitat, this species was not observed during a focused rare plant survey conducted in May 2019.
Heartscale <i>Atriplex cordulata</i> var. <i>cordulata</i>	--/--/1B.2	Annual herb found in saline or alkaline soils, chenopod scrub, meadows and seeps, valley and foothill grassland, which is occasionally sandy, from 0 to 1,840 feet. Known from Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Madera, Merced, San Joaquin Solano, Stanislaus, Tulare, and Yolo counties.	Blooming period: April – October.	None. While the annual grassland provides habitat, this species occurs outside of the known extant geographical range and was not observed during the botanical inventories conducted in May June, and July 2019.
Palmate-bracted bird's-beak <i>Chloropyron palmatum</i>	FE/CE/ 1B.1	Annual herb found in alkaline soils, Chenopod scrub, valley and foothill grassland from 16 to 510 feet. Known from Alameda, Colusa, Fresno, Glenn, Madera, San Joaquin, and Yolo counties.	Blooming period: May – October.	None. While the annual grassland provides habitat, this species was not observed during the botanical inventories conducted in May June, and July 2019.
Recurved larkspur <i>Delphinium recurvatum</i>	--/--/1B.2	Perennial herb found in chenopod scrub, cismontane woodland, valley and foothill grassland from 10 to 2,600 feet.	Blooming period: March – June.	None. While the annual grassland provides habitat, this species was not observed during the botanical inventories conducted in May and June 2019.
San Joaquin Spearscale <i>Extriplex joaquinana</i>	--/--/1B.2	Annual herb found in alkaline soils, chenopod scrub, meadows and seeps, playas, and valley and foothill grassland from 3 to 2,740 feet.	Blooming period: April – September.	None. While the annual grassland provides habitat, this species was not observed during the botanical inventories conducted in May June, and July 2019.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	--/--/1B.2	Perennial herb found in marshes and swamps, which is occasionally freshwater, and often found in riprap on sides of levees, from 0 to 390 feet.	Blooming period: June – September.	None. While the seasonal riverine provides habitat, this species was not observed during a focused rare plant survey conducted in June and July 2019.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/1B.1	Annual herb found in marshes and swamps (coastal salt), playas, and vernal pools from 3 to 4,000 feet.	Blooming period: February – June.	None. The project area does not provide habitat for this species.
Colusa layia <i>Layia septentrionalis</i>	--/--/1B.2	Annual found in sandy serpentine soils, chaparral, cismontane woodland, valley and foothill grassland from 330 to 3600 feet.	Blooming period: April – May.	None. The project area is outside the known elevation range of this species.
Veiny monardella <i>Monardella venosa</i>	--/--/1B.1	Annual herb found in heavy clay, cismontane woodland, and valley and foothill grassland from 200 to 1,350 feet.	Blooming period: June – July.	None. The project area is outside the elevation range of this species.

TABLE D-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name Scientific Name	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Plants (cont.)				
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	--/--/1B.1	Annual herb found in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools from 16 to 5,710 feet.	Blooming period: April – July.	None. While the annual grassland provides habitat, this species was not observed during the botanical inventories conducted in May and June 2019.
Hartweg's golden sunburst <i>Pseudobahia bahiifolia</i>	FE/CE/1B.1	Annual herb found in clay, often acidic soil; cismontane woodland, and valley and foothill grassland from 50 to 490 feet.	Blooming period: March– April.	None. The project area is outside the known current geographic distribution of this species.
Wright's Trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>	--/--/2B.1	Annual herb found in alkaline soils, meadows and seeps, marshes and swamps, riparian forest, and vernal pools from 16 to 1,430 feet.	Blooming period: May – September.	None. While the riparian forest adjacent to the project area and the seasonal riverine within the project area provide habitat, this species was not observed during the botanical inventories conducted in May and June 2019.
Wildlife				
Invertebrates				
Crotch bumble bee <i>Bombus crotchii</i>	--/SC/--	Found in open grassland and scrub. Nests underground in abandoned rodent burrows. Colonies are annual and only the newly mated queens overwinter. The queens emerge from hibernation in early spring to search for nest sites. Host plant food includes milkweed (<i>Asclepias</i> sp.), pincushion (<i>Chaenactis</i> sp.), lupine (<i>Lupinus</i> sp.), bur clover (<i>Medicago</i> sp.), phacelia (<i>Phacelia</i> sp.), and sage (<i>Salvia</i> sp.)		Low. Although the annual grassland within the project area contains suitable host plants, given the area is disturbed by periodic mowing activities (and in prior years was in active agriculture), the potential for occurrence of this species is considered low.
Western bumble bee <i>Bombus occidentalis</i>	--/SC/--	Found in open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. Nests underground in abandoned rodent burrows or other cavities, but may also nest above ground in structures including logs and railroad ties. Host plant food includes ceanothus (<i>Ceanothus</i> sp.), thistle (<i>Centaurea</i> sp.), rabbitbrush (<i>Chrysothamnus</i> sp.), geranium (<i>Geranium</i> sp.), gumplant (<i>Grindelia</i> sp.), lupine (<i>Lupinus</i> sp.), sweetclover (<i>Melilotus</i> sp.), monardella (<i>Monardella</i> sp.), blackberry (<i>Rubus</i> sp.), goldenrod (<i>Solidago</i> sp.), and clover (<i>Trifolium</i> sp.).		None. The project area is outside the currently known range of this species which is largely restricted to high elevations in the Sierra Nevada mountain range and along the coast.

TABLE D-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name Scientific Name	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife (cont.)				
Invertebrates (cont.)				
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/--/--	Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	Adults emerge in spring until June. Exit holes visible year – round.	Moderate. No elderberry shrubs were observed within the project area during the biological resources survey conducted in May 2019, but shrubs could be present adjacent to project area.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	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.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	None. The project area does not provide suitable habitat for this species.
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	FE/--/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	None. The project area does not provide suitable habitat for this species.
Fish				
Delta smelt <i>Hypomesus transpacificus</i>	FT/SE/--	Found in open surface waters in the Sacramento/San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	Spawn December – July. Present year – round in the Delta.	None. The project area is outside the distribution range of this species.
Central Valley DPS steelhead <i>Oncorhynchus mykiss</i>	FT/--/--	Inhabits rivers and streams tributary to the Sacramento - San Joaquin Rivers and Delta ecosystems.	Spawn in winter and spring.	High. This species is seasonally present in the mainstem Sacramento River and could be present in the Tisdale Bypass during and immediately following events in which the Tisdale Weir is overtopped, or when flows in the Sutter Bypass back up into Tisdale Bypass.
Central Valley ESU spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT/ST/--	Inhabits rivers and streams tributary to the Sacramento - San Joaquin Rivers and Delta ecosystems.	Spawn in late summer and fall.	High. This species is seasonally present in the mainstem Sacramento River and could be present in the Tisdale Bypass during and immediately following events in which the Tisdale Weir is overtopped, or when flows in the Sutter Bypass back up into Tisdale Bypass.

TABLE D-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name Scientific Name	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife (cont.)				
Fish (cont.)				
Sacramento River winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FE/SE/--	Requires cold, freshwater streams with suitable gravel for spawning; rears seasonally inundated floodplains, rivers, tributaries, and Delta.	Spawn in late spring and summer	High. This species is seasonally present in the mainstem Sacramento River and could be present in the Tisdale Bypass during and immediately following events in which the Tisdale Weir is overtopped, or when flows in the Sutter Bypass back up into Tisdale Bypass.
Southern DPS of North American green sturgeon <i>Acipenser medirostris</i>	FT/--/--	The Southern Distinct Population Segment spawns in the Sacramento River basin. Juveniles and subadults rear in the Sacramento-San Joaquin Delta and Estuary	Spawn in spring and early summer.	High. This species is seasonally present in the mainstem Sacramento River and could be present in the Tisdale Bypass during and immediately following events in which the Tisdale Weir is overtopped, or when flows in the Sutter Bypass back up into Tisdale Bypass.
Amphibians/Reptiles				
California red-legged frog <i>Rana draytonii</i>	FT/CSC/- -	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation from 0 to 4,920 feet.	Aquatic surveys of breeding sites between January and September. Optimally after April 15.	None. The project area is outside the known current geographic range of this species
California tiger salamander <i>Ambystoma californiense</i>	FT/CT/--	Found in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stockponds, in grassland and oak savannah plant communities from 10 to 3,450 feet.	Aquatic surveys of breeding sites between March and May.	None. The project area does not provide habitat for this species. The ponded areas within the Tisdale Bypass are known to support fish making it very unlikely they are used as breeding ponds.
Foothill yellow-legged frog <i>Rana boylei</i>	FC/SC/--	Inhabits partially shaded, rocky streams with perennial flow at low to moderate elevations, in areas of chaparral, open woodland, and forest. Elevation range extends from sea level to around 7,000 feet.	Surveys of breeding sites between April - June	None. The project area lacks suitable habitat for this species.
Giant garter snake <i>Thamnophis gigas</i>	FT/CT/--	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November – mid March).	Active outside of dormancy period November-mid March	High. There is a past documented occurrence of this species within the project area. The drainage features along the Tisdale Bypass provide potential aquatic habitat for this species.

TABLE D-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name Scientific Name	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife (cont.)				
Amphibians/Reptiles (cont.)				
Western pond turtle <i>Emys marmorata</i>	--/CSC/--	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Active outside of dormancy period November – February	Moderate. The canal within the Tisdale Bypass provides aquatic habitat for this species. The canal and permanent water adjacent to the project area provide aquatic habitat for this species.
Breeding Birds				
Bank swallow <i>Riparia riparia</i>	--/CT/--	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April – July	None. The project area does not provide suitable habitat for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	--/CT/--	Inhabits saltwater, brackish, and freshwater marshes. Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Year – round	None. The project area does not provide suitable habitat for this species.
Greater sandhill crane <i>Antigone canadensis tabida</i>	--/CT/--	Breeds in open wetlands, fields, and prairies. In California, breeds in northeastern California and winters in the Central Valley.	September – February	None. While the project area occurs within the range for wintering, it occurs outside of the known geographic range for breeding.
Mountain plover <i>Charadrius montanus</i>	--/CSC/--	Inhabits short grasslands, freshly plowed fields, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents. Breeds in the mid-west. Winters in Central and Southern California.	December – February	None. While the project area occurs within the range for wintering, it occurs outside of the known geographic range for breeding. Therefore the species would not be present during the period of construction work.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	--/CSC/--	Nests on the ground and in marshes. Inhabits grassland, chaparral, orchard, woodland, wetland, riparian, and scrub-shrub. Extirpated or possibly extirpated from Sutter County.	February – September	Low. While the annual grassland and riparian woodland provide nesting habitat, the project area occurs outside of the known extant geographic range for this species.
Swainson's hawk <i>Buteo swainsoni</i>	--/CT/--	Nest peripherally to valley riparian systems lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March – October	High. The mature trees within and in the vicinity of the project area provide suitable nesting habitat and the annual grassland within and in the vicinity of the project area provide foraging habitat for this species.
Tricolored blackbird <i>Agelaius tricolor</i>	--/CT/-- (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals).	Year – round	None. No suitable nesting habitat occurs within the project area for this species.

TABLE D-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name Scientific Name	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife (cont.)				
Breeding Birds (cont.)				
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT/CE/--	Nests in riparian forests, along the broad, lower flood-bottoms of larger river systems, particularly in willows, cottonwoods, and with a understory of blackberry, nettles, or wild grape.	June – August	Low. The project area provides very marginal foraging habitat even though the eastern portion of the project area is within the USFWS proposed critical habitat.
Mammals				
Western red bat <i>Lasiurus blossevillii</i>	--/CSC/--	Inhabits cismontane woodland, lower montane coniferous forest, riparian forest, and riparian woodland.	Year – round	Moderate. The trees within the riparian woodland provide roosting habitat for this species.
Marysville California kangaroo rat <i>Dipodomys californicus eximius</i>	--/CSC/--	Inhabits chaparral and valley and foothill grasslands. Known only in the Sutter Buttes area.	Year – round	None. The project area is outside the known distribution range of this species.
Pallid bat <i>Antrozous pallidus</i>	--/CSC/--	Inhabits deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky roosting areas.	Year – round	Moderate. The trees within the riparian woodland provide roosting habitat for this species.
Status Codes				
Federal: FE = federal endangered FT = federal threatened FC = candidate PT = proposed threatened FPD = proposed for delisting FD = delisted EFH = Essential Fish Habitat	California: CE = California state endangered CT = California state threatened CR = California state rare CSC = California species of special Concern CCT = California state threatened candidate CFP = California fully protected SC = California state candidate for listing	CNPS Rank Categories: 1A = Plants presumed extirpated in California and either rare or extinct elsewhere 1B = Plants Rare, Threatened, or Endangered in California and elsewhere. 2A = Plants presumed extirpated in California, but more common elsewhere 2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere 3 = Plants about which more information is needed - A Review List 4 = Plants of limited distribution - A Watch List CNPS Code Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat) .2 = Fairly endangered in California (20-80% occurrences threatened) .3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known)		

SOURCES: CDFW, 2019; CNPS, 2019; USFWS, 2019