

California High-Speed Rail Authority

Merced to Fresno Section: Central Valley Wye

**Appendix to the Revised Draft
Supplemental Environmental
Impact Report / Second Draft
Supplemental Environmental
Impact Statement, Biological
Resources Analysis**

**Revised Appendix 3.7-C-2: Biological
Resources and Wetlands: Special-Status
Wildlife**

March 2020

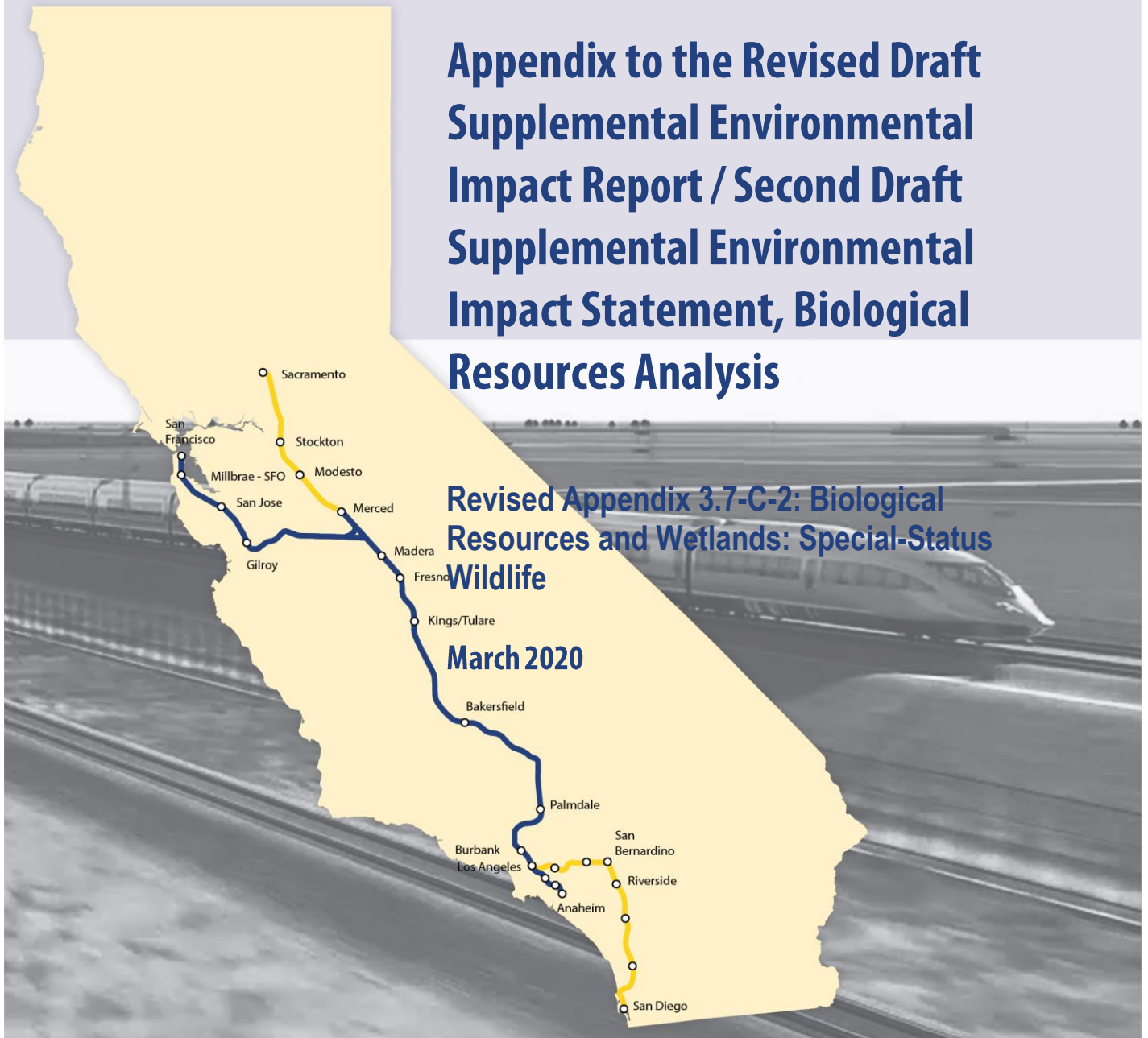


Table 1 Special-Status Wildlife Species with Potential to Occur in the Resource Study Area

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Invertebrates				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E	–	Found in large, turbid pools in the northern 2/3 of the Central Valley; inhabits static pools located in swales formed by old, braided alluvium, filled by winter/spring rains, last until June. Primary constituent elements of critical habitat include: complexes of swales and pools with intermittently or continuously flowing surface water; depressional features that become inundated by winter rains and continuously hold water for a minimum of 19 days; and sources of food and habitat structure within pools.	Potential to Occur: The RSA lies within the known range of the species and vernal pools are present in the resource study area. There are reported CNDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Conservancy fairy shrimp *Critical Habitat* <i>Branchinecta conservatio</i>				No critical habitat for this species occurs in the Wildlife RSA.
Longhorn fairy shrimp <i>Branchinecta longiantenna</i>	E	–	Inhabits vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats.	No Potential to Occur: There is a reported occurrence approximately 8 miles west of the western-most point of the project footprint in a road-side ditch two miles north of Los Banos (Occurrence 10; CDFW 2016). This occurrence is considered by the USFWS as an anomaly and not a sustainable population since only one individual was detected (USFWS 2007).
Longhorn fairy shrimp *Critical Habitat* <i>Branchinecta longiantenna</i>				No critical habitat for this species occurs in the Wildlife RSA.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T	–	Vernal pools; inhabit small, clear-water sandstone depression pools and grassed swale, earth slump, or basalt-flow depression pools. Primary constituent elements of critical habitat include: complexes of swales and pools with intermittently or continuously flowing surface water; depressional features that become inundated by winter rains and continuously hold water for a minimum of 18 days; and sources of food and habitat structure within pools.	Potential to Occur: The RSA lies within the known range of the species and vernal pools are present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Vernal pool fairy shrimp *Critical Habitat* <i>Branchinecta lynchi</i>				Designated critical habitat for this species occurs within the project footprint.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	–	Elderberry shrubs with stem diameters of >1 inch. Species always found close to host plant. Larvae may remain in stems for up to 2 years.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Valley elderberry longhorn beetle *Critical Habitat* <i>Desmocerus californicus dimorphus</i>				No critical habitat for this species occurs in the project footprint.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E	–	Seasonal pools in unplowed grassland with old alluvial soils underlain by hardpan or in sandstone depressions, water in the pools has very low alkalinity and conductivity. Primary constituent elements of critical habitat include: complexes of swales and pools with intermittently or continuously flowing surface water; depression features that become inundated by winter rains and continuously hold water for a minimum of 41 days; and sources of food and habitat structure within pools.	Potential to Occur: The RSA lies within the known range of the species and vernal pools are present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Vernal pool tadpole shrimp *Critical Habitat* <i>Lepidurus packardii</i>				Designated critical habitat for this species occurs within the project footprint.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Crotch bumble bee	–	CE	<p>Bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources, and suitable overwintering sites for the queens. Crotch bumble bee inhabits open grassland and scrub habitats and primarily nests underground (Williams et al. 2014). Little is known about the nesting and overwintering sites for Crotch bumble bee, however similar species typically overwinter in soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Nests are often located underground in abandoned holes made by ground squirrels, mice, and rats, or occasionally abandoned bird nests.</p> <p>Crotch bumble bee is classified as a short-tongued species, and is primarily associated with the following plant families: Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, Boraginaceae (Xerces Society et al. 2018) including plants in the genera <i>Asclepias</i>, <i>Chaenactis</i>, <i>Lupinus</i>, <i>Medicago</i>, <i>Phacelia</i>, and <i>Salvia</i> (Williams et al. 2014).</p>	Potential to Occur: The RSA lies within the known range of the species and suitable grassland and scrub habitat types are present in the resource study area.
Fish				
Kern brook lamprey <i>Lampetra hubbsi</i>	–	CSC	Silty backwaters of rivers. Ammocoetes favor substrates of mud and sand and adults need riffle habitat with gravel for spawning (Moyle 2002).	Potential to Occur: Kern brook lamprey could occur in the San Joaquin River during the winter months when flows are adequate. The San Joaquin River would be used as a migratory corridor to eastside tributaries.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Central Valley steelhead <i>Oncorhynchus mykiss</i>	T	CSC	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8 to 18°C (Moyle 2002). Habitat types are riffles, runs, and pools.	Potential to Occur: Steelhead could occur in the San Joaquin River during the winter months when flows are adequate. The San Joaquin River would be used as a migratory corridor to eastside tributaries such as the Merced River.
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	T	T	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0 to 12.5°C. Habitat types are riffles, runs, and pools. (Moyle 2002).	Potential to Occur: Spring-run Chinook salmon do not currently occur in the San Joaquin River due to lack of flow. They would be introduced in the future when restoration actions begin.
Winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	E	E	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0 to 12.5°C. Habitat types are riffles, runs, and pools. (Moyle 2002).	No Potential to Occur. The RSA lies outside of the known range of the species.
Chinook salmon – Central Valley fall/late-fall run ESU <i>Oncorhynchus tshawytscha</i>	SC	CSC	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0 to 12.5°C. Habitat types are riffles, runs, and pools (Moyle 2002).	Potential to Occur: Fall-run Chinook salmon could occur in the San Joaquin River during the winter months when flows are adequate. The San Joaquin River would be used as a migratory corridor to eastside tributaries such as the Merced River.
Delta smelt <i>Hypomesus transpacificus</i>	T	T	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand (Moyle 2002).	No Potential to Occur. The RSA lies outside of the known range of the species.
Hardhead <i>Mylopharodon conocephalus</i>	–	CSC	Reside in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. Also occur in reservoirs.	Potential to Occur: Hardhead could occur in the San Joaquin River during months where river flow is adequate.
San Joaquin roach <i>Lavinia symmetricus</i>	–	CSC	Found in a wide variety of habitats such as small, warm streams to cold, clear streams. Mainly use pool or slow-moving water habitat with other native fish species (Moyle 2002).	Potential to Occur: Roach could occur in the San Joaquin River during months where river flow is adequate.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	T	T	Requires vernal pools or other seasonal water sources that remain inundated for a minimum of 12 weeks for breeding. Suitable upland habitat includes annual grasslands and grassy understory of valley-foothill hardwood habitats (i.e., oak-savanna). Requires mammal burrows or other underground refuges.	Potential to Occur: The RSA lies within the known range of the species and suitable aquatic and upland habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
California tiger salamander *Critical Habitat* <i>Ambystoma californiense</i>				No critical habitat for this species occurs in the project footprint.
Yellow-blotched salamander <i>Ensatina eschscholtzii croceator</i>	–	CSC		No Potential to Occur: The RSA lies outside of the known range of the species.
California red-legged frog <i>Rana draytonii</i>	T	CSC	Pools in marshes, streams, ponds, with emergent vegetation, and typically without predatory fish; require adequate hibernacula such as small mammal burrows and moist leaf litter.	No Potential to Occur: The RSA lies outside of the known range of the species.
California red-legged frog Critical Habitat <i>Rana draytonii</i>				No critical habitat for this species occurs in the project footprint.
Northern leopard frog <i>Lithobates pipiens</i>	–	CSC	Permanent aquatic habitat such as creeks, wet meadows, and ponds with emergent and submergent vegetation for breeding and overwintering. Nearby dense grass or forb dominated habitats with moist soil for foraging.	No Potential to Occur: The RSA lies outside of the known range of the species.

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Foothill yellow-legged frog <i>Rana boylei</i>	–	CSC	Occurs in Klamath Mountains; Cascade, north and south Coast, and Transverse Ranges; and Sierra Nevada up to approximately 6,000 feet. Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along edge. Usually found near riffles with rocks and sunny banks nearby.	No Potential to Occur: The RSA lies outside of the known range of the species.
Western spadefoot <i>Spea hammondi</i>	–	CSC	Grassland and valley-foothill hardwood woodlands, vernal pools, or seasonal wetlands are essential for egg laying.	Potential to Occur: The RSA lies within the known range of the species and suitable aquatic and upland habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are reported occurrences of this species within the project footprint (CDFW 2016).
Reptiles				
Western pond turtle <i>Actinemys marmorata</i>	–	CSC	Ponds, marshes, rivers, streams, irrigation ditches, vernal pools. Needs basking sites such as partially submerged logs or rocks, and suitable upland habit (sandy banks or grassy open fields) for egg laying. Fresh, brackish, or saltwater conditions.	Potential to Occur: The RSA lies within the known range of the species and suitable aquatic and upland habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are reported occurrences of this species within the project footprint (CDFW 2016).
Blunt-nosed leopard lizard <i>Gambelia sila</i>	E	E/FP	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Silvery legless lizard <i>Anniella pulchrapulchra</i>	–	CSC	Semi-stabilized sand dunes, areas with sandy soil, and high moisture content, vegetated with oak or pine-oak woodland, chaparral; also wooded stream edges, and occasionally desert-scrub. Bush lupine often is an indicator of suitable conditions. Often found in leaf litter, and under rocks, logs, and driftwood.	No Potential to Occur: The RSA lies outside of the known range of the species.
Coast horned lizard <i>Phrynosoma blainvillii</i>	–	CSC	Sandy loam areas and on alkali flats. Dietary specialists dependent on ants, as well as beetles and other seasonally abundant insects. Forages on the ground in open areas, usually between shrubs and often near an ant nest. Uses small mammal burrows or burrows under surface objects during periods of extended inactivity or hibernation.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Giant garter snake <i>Thamnophis gigas</i>	T	T	Found in freshwater marshes and low-gradient streams. Prefers habitat with dense emergent vegetation, deep and shallow pools of water that persist throughout the seasonal cycle of activity, open areas along water margins, and upland habitat with access to structures suitable for hibernation and escape from flooding. Has adapted to drainage canals and irrigation ditches.	Potential to Occur: The RSA lies within the known range of the species and suitable aquatic and upland habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are reported occurrences of this species within the project footprint (CDFW 2016).
San Joaquin whipsnake <i>Masticophis flagellum ruddocki</i>	–	CSC	Open, dry, treeless areas, including grassland and saltbush scrub. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	No Potential to Occur: The RSA lies outside of the known range of the species.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Birds				
American white pelican <i>Pelecanus erythrorhynchos</i>	–	CSC	Historically, nested at large lakes throughout California; only breeding colonies in the state occur at lower Klamath National Wildlife Refuge, Siskiyou County, and at Clear Lake, Modoc County; winters along the California coast from southern Sonoma County. Frequents freshwater lakes with islands for breeding; inhabits river sloughs, freshwater marshes, salt ponds, and coastal bays during the rest of the year.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Least bittern <i>Ixobrychus exilis</i>	–	CSC	Marshes and along pond edges, where tules and rushes can provide cover; nests are built low in the tules over the water.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Redhead <i>Aythya americana</i>	–	CSC	Habitat includes shallow freshwater lakes, ponds, and marshes. The body of water needs to be at least 28 inches deep so that they can dive.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Fulvous whistling-duck <i>Dendrocygna bicolor</i>	–	CSC	Habitat includes shallow freshwater and coastal marshes. Shows a preference for rice fields and tall-grass areas flooded to a depth of <0.5 m.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Golden eagle <i>Aquila chrysaetos</i>	BGEPA	FP	Nests on cliff ledges and large trees in open areas. Forages in open areas such as grassland, low scrub, or open woodlands.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Swainson's hawk <i>Buteo swainsoni</i>	–	ST	Nests in larger trees adjacent to grasslands and agricultural fields where it forages.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are several reported CNDDDB occurrences within project footprint (CDFW 2016) and project biologists observed nesting in the project footprint during the 2015 nesting season.
Northern harrier <i>Circus cyaneus</i>	–	CSC	Nests on ground in shrubby vegetation, usually near wet areas. Forages in grasslands, wetlands, and other open areas.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016), though the species was observed in the RSA during the 2014 reconnaissance field survey.
White-tailed kite <i>Elanus leucurus</i>	–	FP	Open grasslands with scattered trees for nesting and perching. They often nest in trees adjacent to open areas.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
American peregrine falcon <i>Falco peregrinus anatum</i>	Delisted, BCC	E/FP	Nests and roosts on protected ledges of high cliffs, preys on birds.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
California condor <i>Gymnogyps californianus</i>	E	E	Requires large blocks of open savanna, grasslands, and foothill chaparral with large trees, cliffs, and snags for roosting and nesting.	No Potential to Occur: The RSA lies outside of the known range of the species.
California condor *Critical Habitat* <i>Gymnogyps californianus</i>				No critical habitat for this species occurs in the project footprint.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Bald eagle <i>Haliaeetus leucocephalus</i>	Delisted/B GEPA, BCC	E/FP	Ocean shore, lake margins and rivers; mostly nests within 1 mile of water. Nests in large old growth or dominant live trees with open branches, especially ponderosa pine.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Yellow rail <i>Coturnicops noveboracensis</i>	BCC	CSC	Historical records of nests in Mono County east of the Sierra Nevada and formerly Marin County on the coast; winter records also on the coast from Humboldt County to Orange County. Utilizes grassy marshes and wet meadows, building well-concealed firm grass cup nests. Especially secretive and seldom seen.	No Potential to Occur: The RSA lies outside of the known range of the species.
Black rail <i>Laterallus jamaicensis</i>	BCC	T/FP	Permanent resident in the San Francisco Bay and eastward through the Delta into Placer, Sacramento, and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties. Uses matted dead marsh grasses and thick plant stands for cover and concealment. Builds cup nest of loose grasses on ground. Secretive and very rarely seen.	No Potential to Occur: The RSA lies outside of the known range of the species.
Lesser sandhill crane <i>Grus canadensis</i>	--	CSC	Forages on waste seed and other grains on agricultural fields. Also consumes invertebrates and small vertebrates. Winter visitors only in the Central Valley.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016), though the species was observed in the RSA during the 2014 reconnaissance field survey

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Greater sandhill crane <i>Grus canadensis tabida</i>	–	T/FP	Forages on waste seed and other grains on agricultural fields. Also consumes invertebrates and small vertebrates. Winter visitors only in the Central Valley.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016), though the species was observed in the RSA during the 2014 reconnaissance field survey.
Long-billed curlew <i>Numenius americanus</i>	BCC	–	Nests in northeastern California in Modoc, Siskiyou, and Lassen Counties. Winters along the coast and in interior valleys west of Sierra Nevada; during migration frequents lake and river shores, mudflats, salt marshes, and sandy beaches. Uses a grass-lined nest in a hollow on the ground.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Whimbrel <i>Numenius phaeopus</i>	BCC	–	Breeds in Arctic tundra in Alaska and Canada, especially near coast; uses coastal salt meadows, mudflats, and grassy shoreline slopes during migration. Winters in central and southern California. Nests in clumps of moss or grassy depressions on the ground.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Red knot <i>Calidris canutus roselaari</i>	BCC	–	Breeds in Siberia and northwestern Alaska and winters in Florida, Panama, and Venezuela. Nests on wet, low tundra to dry slopes and ridges. Common locally along sandy beaches and occasionally in the Central Valley during migration. Does not nest in California.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Western snowy plover (inland population) <i>Charadrius alexandrinus nivosus</i>	T	CSC	Occurs year round in California. Inhabits beaches, dry mud or salt flats, sandy shores of rivers, lakes, and ponds. Nests primarily on coastal beaches, but known to nest in the Central Valley. Breeds in loose colonies. Federal listing applies only to the Pacific coastal population. CDFG "Species of Special Concern" designation refers to both the coastal and interior populations.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Mountain plover <i>Charadrius montanus</i>	PT	CSC	Does not breed in California; winters in the Central Valley south of Yuba County, along the coast in parts of San Luis Obispo, Santa Barbara, Ventura, and San Diego Counties; parts of Imperial, Riverside, Kern, and Los Angeles Counties	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Black tern <i>Chlidonias niger</i>	–	CSC	Spring and summer resident of the Central Valley, Salton Sea, and northeastern California where suitable emergent wetlands occur. Occurs in freshwater wetlands, lakes, ponds, moist grasslands, and agricultural fields; feeds mainly on fish and invertebrates while hovering over water.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint.
Short-billed dowitcher <i>Limnodromus griseus</i>	BCC	–	Breeds in southern Alaska and parts of Canada and winters along coast from California and Virginia southward. Nests on moist tundra or beside forest pools; visits mudflats, creeks, salt marshes, and tidal estuaries during migration and in winter. Nest is a depression on the ground lined with grass and moss.	No Potential to Occur: The RSA lies outside of the known range of the species.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Marbled godwit <i>Limosa fedoa</i>	BCC	–	Breeds on the central plains from Saskatchewan to Minnesota and winters on coasts from California and Virginia southward and along Gulf Coast. Nests on grassy plains; visits salt marshes, tidal creeks, mudflats, and sea beaches on migration. Creates a nest in a slight depression lined with grass on the ground and nests in loose colonies.	No Potential to Occur: The RSA lies outside of the known range of the species.
Xantu's murrelet <i>Synthloramphus hypoleucus</i>	C, BCC	T	Breeds on offshore islands of Baja California and southern California; occasionally wanders north to Vancouver Island. An ocean-going species; nests in colonies on rocky sea islands, laying its eggs among boulders or in crevices off of island beaches.	No Potential to Occur: The RSA lies outside of the known range of the species.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	C, BCC	E	Occurs year round in California range. Inhabits beaches, dry mud or salt flats, sandy shores of rivers, lakes, and ponds. Nests primarily on coastal beaches, but known to nest in the Central Valley. Breeds in loose colonies. Federal listing applies only to the Pacific coastal population. CDFG "Species of Special Concern" designation refers to both the coastal and interior populations.	No Potential to Occur: The habitat study area lies within the historical range of the western yellow-billed cuckoo; however, the current distribution of the species in the Central Valley is primarily restricted to isolated breeding populations along the Sacramento River and in the upper Kern River watershed; the habitat study area lies outside of the species' currently accepted range.
Short-eared owl <i>Asio flammeus</i>	–	CSC	Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and daytime roosts.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Long-eared owl <i>Asio otus</i>	–	CSC	Nests in abandoned crow, hawk, or magpie nests, usually in dense riparian stands of willows, cottonwoods, live oaks, or conifers.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016)
Western burrowing owl <i>Athene cunicularia</i>	BCC	CSC	Nests and winters in grassland and sparse shrubland habitats throughout California; also can be found in habitats disturbed by human activity; uses abandoned burrows of burrowing mammals for shelter and nest sites.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Flammulated owl <i>Otus flammeolus</i>	BCC	–	Breeds in southern British Columbia south to southern California, Arizona, New Mexico, and western Texas. Winters south of United States. Inhabits coniferous woodlands and forest edges in the Northwest and dry ponderosa pine woods in the Southwest. Nests in a tree hollow or deserted woodpecker hole.	No Potential to Occur: The RSA lies outside of the known range of the species.
Spotted owl <i>Strix occidentalisoccident alis</i>	BCC	CSC	Occurs throughout its historic range in California, extending along the west side of the Sierra Nevada, some eastern Sierra portions, areas of the central Coast range, and in all major mountains of southern California. Inhabits old-growth coniferous forests and densely wooded canyons. Nests in a natural tree or canyon wall cavity or an abandoned hawk's nest.	No Potential to Occur: The RSA lies outside of the known range of the species.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Costa's hummingbird <i>Calypte costae</i>	BCC	–	Primarily found in southern California but may nest locally along the western edge of the San Joaquin Valley. Found in shrub habitats and areas with trees. Nest is a delicately woven cup, with leaves or lichens fastened to the outside, built low on a protected branch of a bush or small tree.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Allen's hummingbird <i>Selasphorus sasin</i>	BCC	–	Breeds along coast from southern Oregon to southern California and is a resident of southern California. Also winters in Mexico. Prefers coastal chaparral, brushland, and edges of redwood forests. Nest is a tightly woven cup placed on a sheltered branch.	No Potential to Occur: The RSA lies outside of the known range of the species.
Lewis's woodpecker <i>Melanerpes lewis</i>	BCC	–	Breeds in central California. Winters from southern British Columbia and Oregon to Colorado and south to northern Mexico; wanders east to the Great Plains. Prefers open pine-oak woodlands, oak or cottonwood groves in grasslands, ponderosa pine country. Forms loose colonies nesting in cavities of dead stumps or tree limbs, often at a considerable height.	No Potential to Occur: The RSA lies outside of the known range of the species.
White-headed woodpecker <i>Picoides albolarvatus</i>	BCC	–	Resident from extreme south-central British Columbia, northeastern Washington, and Idaho, south to southern California and western Nevada. Prefers ponderosa pine belts of the mountains; also in subalpine belts of firs. Nest cavities are in a pine stub or snag, often close to the ground.	No Potential to Occur: The RSA lies outside of the known range of the species.

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC	–	Resident from northern California to Baja California. Prefers canyon scrub oaks, oak woodlands, and streamside growth. Nests in holes excavated in a thin dead branch of an oak or cottonwood, or even a large, thick-stemmed elderberry bush.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area.
Loggerhead shrike <i>Lanius ludovicianus</i>	BCC	CSC	Breeds and forages in open habitats interspersed with shrubs and small trees, including disturbed habitats.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016), though the species was observed in the RSA during the 2014 reconnaissance field survey footprint.
Least bell's vireo <i>Vireo bellii pusillus</i>	E	E	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground.	Potential to Occur: The habitat study area lies within the historical range of the least bell's vireo; however, the current distribution of the species is primarily restricted to riverine systems in southern California; The species was extirpated from the Central Valley in the 1940's. However, in 2005, a breeding pair was observed in the San Joaquin Wildlife Refuge. There is potential for this species to nest in the habitat study area in the future. There are no CNDDDB reported occurrences of this species within 10 miles of the project footprint (CDFW 2016).
Yellow-billed magpie <i>Pica nuttalli</i>	BCC	–	Resident in California's Central Valley and adjacent foothills. Common in oak savannas, oak woods, riverside growth, ranches, and suburbs. Nests in colonies in tall trees with dense foliage and builds nests of twigs and sticks.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016)

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Purple martin <i>Progne subis</i>	–	CSC	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Oak titmouse <i>Baeolophus inornatus</i>	BCC	–	Resident from southern Oregon south to Baja California. Prefers live oaks and deciduous growths of all kinds. Nests in tree cavities, fence post holes, or crevices of old buildings. Nest is composed of grasses, fur, and some feathers.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area.
Cactus wren <i>Campylorhynchus brunneicapillus</i>	BCC	–	Resident in southern California. Prefers desert thickets and cacti. Nest is a mass of fine grass and straw with a side entrance, lined with feathers and hair and placed in the top of a thorny desert shrub or spiny cactus.	No Potential to Occur: The RSA lies outside of the known range of the species.
Le Conte's thrasher <i>Toxostoma lecontei</i>	BCC	CSC	Permanent resident within California range. Commonly found on very dry and lightly vegetated plains with desert scrub, particularly saltbush and creosote bush. Nests in thick, dense, and thorny desert shrubs or cholla cacti.	No Potential to Occur: The RSA lies outside of the known range of the species.
Yellow warbler <i>Dendroica petechia brewsteri</i>	BCC	CSC	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Yellow-breasted chat <i>Icteria virens</i>	–	CSC	Nests in dense riparian thickets of willow and other brushy tangles, including briars and stream thickets near watercourses.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDB occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Grasshopper sparrow <i>Ammodramus savannarum</i>	BCC	CSC	Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Nests in slight depressions in dense grasslands.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Oregon vesper sparrow <i>Poocetes gramineus affinis</i>	–	CSC	Winters in California. Grassland wintering habitat characterized as mainly open ground with little vegetation, or short grass and low annuals, including stubble fields, meadows, and road edges.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Black-chinned sparrow <i>Spizella atrogularis</i>	BCC	–	Breeds from central California, southern Nevada, southern Utah, Arizona, southern New Mexico, and western Texas southward and winters along Mexican border. Prefers low, dense chaparral, mountain slopes; and sagebrush. Nest is a grass-lined cup well concealed in a low bush.	No Potential to Occur: The RSA lies outside of the known range of the species.
Tricolored blackbird <i>Agelaius tricolor</i>	–	T	Nests next to open water where there is extensive emergent vegetation, blackberry, or wild rose bushes; frequently forages in grain fields.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	–	CSC	Nest over persistent water in freshwater emergent wetlands with dense vegetation adjacent to deep water, and along borders of lake or ponds.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Lawrence's goldfinch <i>Carduelis lawrencei</i>	BCC	–	Breeds in central and southern California, west of Sierra Nevada and south into Baja California; winters south and east to extreme western Texas. Prefers dry grassy slopes with weed patches, chaparral, and open woodlands. Nest is a tightly woven cup in a low tree or bush.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Mammals				
Pallid bat <i>Antrozous pallidus</i>	–	CSC	Forages in open areas of grasslands, shrublands, woodlands, and forests from sea level up through mixed conifers. Roosts in crevasses in trees, structures, and rock.	Potential to Occur: The RSA lies within the known range of the species and suitable roosting and foraging habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	–	CT/CSC	Forages in arid areas and open coniferous forests. Roosts in rocky areas with caves or tunnels.	No Potential to Occur: The habitat study area lies within the known range of the species and but does not contain suitable roosting habitat.
Western mastiff bat <i>Eumops perotis californicus</i>	–	CSC	Roosts in crevices in cliff faces, high buildings, and tunnels. Forages in arid, semi-arid habitat — coniferous and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.	Potential to Occur: The RSA lies within the known range of the species and suitable foraging habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).
Western red bat <i>Lasiurus blossevillii</i>	–	CSC	Roost primarily in trees, prefers habitat edges and mosaics with trees that are protected above and open below for foraging.	Potential to Occur: The RSA lies within the known range of the species and suitable roosting and foraging habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status ¹	State Status ²	Preferred Habitat	Potential to Occur
Ringtail <i>Bassariscus astutus</i>	–	FP	Occurs primarily in riparian habitats but also known from most forest and shrub habitats from lower to mid elevations. Usually found near water.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are no reported CNDDDB occurrences within 10 miles of the project footprint (CDFW 2016).
American badger <i>Taxidea taxus</i>	–	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Principal requirements: sufficient food, friable soils, and relatively open, uncultivated ground. Preys primarily on burrowing rodents such as gophers, ground squirrels, marmots, and kangaroo rats.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016a).
Fresno kangaroo rat <i>Dipodomys nitratoides exilis</i>	E	E	Sandy or saline soils in chenopod scrub and annual grassland communities on the Valley floor. Recently they have been found only in alkali sink communities.	No Potential to Occur: The habitat study area lies outside the species' current range and suitable habitat is not present (CDFW 2016).
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	E	T	Annual grassland or grassy open stages with scattered shrubby vegetation; needs loose-textured sandy soils for burrowing, and suitable prey base.	Potential to Occur: The RSA lies within the known range of the species and suitable habitat is present in the resource study area. There are reported CNDDDB occurrences within 10 miles of the project footprint, though there are no reported occurrences of this species within the project footprint (CDFW 2016).

Sources: CDFW 2016; Moyle 2002; USFWS 2007

¹ Federal Status

C(E) = Candidate for Endangered listing status

C(T) = Candidate for Threatened listing status

C(T/E) = Candidate for Threatened or Endangered listing status

SC = Special Concern

FE = Endangered

FT = Threatened

BGEPA = Protected under the Bald and Golden Eagle Protection Act

BCC = Birds of Conservation Concern designated by the U.S. Fish and Wildlife Service.

² State Status

SE = Endangered

ST = Threatened

CT = Candidate for Threatened listing status

CE = Candidate for Endangered listing status

CSC = California Species of Special Concern designated by the California Department of Fish and Game.

FP = Fully Protected species designated by the California Department of Fish and Game.

CDFG = California Department of Fish and Game

CDFW = California Department of Fish and Wildlife

CNDDDB = California Natural Diversity Database

RSA = Resource study area USFWS = U.S. Fish and Wildlife Service

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CNDDDB	California Natural Diversity Database
USFWS	U.S. Fish and Wildlife Service

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