

Table E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site						
Common Name	Scientific Name	Status (Federal/State/CNPS, CDFW, or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely; Possible; Unlikely)	Rationale	Included in Analysis?
PLANTS						
depauperate milk-vetch	<i>Astragalus pauperculus</i>	—/—/4.3	Chaparral, cismontane woodland, valley and foothill grassland; stony flats and shallow depressions, thin soils of red sand or clay of volcanic origin, also vernal mesic (60- to 790-meter elevation) Blooms: March–June	Possible	Annual grassland and vernal pool swales in areas not substantially disturbed by previous mining could support this species. Therefore, it is possible depauperate milk-vetch would be present within the reclamation area. However, CDFW generally only considers plant species on List 1A, List 1B, or List 2 as qualifying for legal protection under CEQA. Consequently, depauperate milk-vetch is excluded from further analysis, because a plant on List 4 is typically not formally protected.	No
Ferris' milk-vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	—/—/1B.1	Meadows, valley and foothill grassland; subalkaline flats on overflow land in the Central Valley, usually seen in dry, adobe soil (5- to 75-meter elevation) Blooms: April–May	Possible	Annual grassland within the reclamation area could support this species. Therefore, it is possible Ferris' milk-vetch would be present on site and the species is considered further.	Yes
Mexican mosquito fern	<i>Azolla microphylla</i>	—/—/4.2	Marshes and swamps, difficult to distinguish from <i>A. filiculoides</i> , which is common; ponds and still water (not saline; 30- to 100-meter elevation) Blooms: August	Possible	Fresh emergent wetland within the reclamation area could support this species. Therefore, it is possible Mexican mosquito fern would be present. However, CDFW generally only considers plant species on List 1A, List 1B, or List 2 as qualifying for legal protection under CEQA. Consequently, Mexican mosquito fern is excluded from further analysis, because a plant on List 4 is typically not formally protected.	No
Sierra foothills brodiaea	<i>Brodiaea sierrae</i>	—/—/4.3	Chaparral, cismontane woodlands; usually on gabbro or serpentine, occasionally on other soil types where conditions limit cover of other plants (50- to 945-meter elevation) Blooms: May–August	Unlikely	Habitat within the reclamation area does not include chaparral or cismontane woodland. Therefore, it is unlikely Sierra foothills brodiaea would be present due to lack of preferred habitat.	No

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Brandegee's clarkia	<i>Clarkia bilboea</i> ssp. <i>brandegeae</i>	—/—/4.2	Chaparral, cismontane woodland, lower montane coniferous forest; often in roadcuts (75- to 915-meter elevation) Blooms: May–July	Unlikely	Habitat within the reclamation area does not include chaparral, cismontane woodland, or coniferous forest. Therefore, it is unlikely Brandegee's clarkia would be present due to lack of preferred habitat.	No
recurved larkspur	<i>Delphinium recurvatum</i>	—/—/1B.2	Chenopod scrub, valley and foothill grassland, cismontane woodland; on alkaline soils, often in valley saltbush or valley chenopod scrub (3- to 685-meter elevation) Blooms: March–June	Unlikely	Habitat within the reclamation area does not include valley saltbush or chenopod scrub. Therefore, it is unlikely recurved larkspur would be present due to lack of preferred habitat.	No
dwarf downingia	<i>Downingia pusilla</i>	—/—/2B.2	Valley and foothill grassland (mesic sites), vernal pools; vernal lake and pool margins with a variety of associates, in several types of vernal pools (1- to 485-meter elevation) Blooms: March–May	Likely	Habitat within the reclamation area and vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, dwarf downingia has been documented near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is likely this species would occur at the mining location and it is considered further.	Yes
stinkbells	<i>Fritillaria agrestis</i>	—/—/4.2	Cismontane woodland, chaparral, valley and foothill grassland; sometimes on serpentine, mostly found in nonnative grassland or in grassy openings in clay soil (10- to 1,555-meter elevation) Blooms: March–June	Unlikely	Habitat within the reclamation area does not include chaparral or cismontane woodland. Therefore, it is unlikely stinkbells would be present due to lack of preferred habitat.	No
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	—/—/1B.2	Vernal pools, valley and foothill grassland; restricted to the edges of vernal pools (30- to 229-meter elevation) Blooms: March–May	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Therefore, it is possible Ahart's dwarf rush would occur within the reclamation area and it is considered further.	Yes

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Red Bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	—/—/1B.1	Chaparral, valley and foothill grassland, cismontane woodland, vernal pools, meadows and seeps; vernal mesic sites, sometimes on edges of vernal pools (35- to 1,250-meter elevation) Blooms: March–June	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Therefore, it is possible Red Bluff dwarf rush would occur within the reclamation area and it is considered further.	Yes
legenere	<i>Legenere limosa</i>	—/—/1B.1	Vernal pools, many historical occurrences are extirpated; in beds of vernal pools (1- to 880-meter elevation) Blooms: April–June	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Therefore, it is possible legenere would occur within the reclamation area and it is considered further.	Yes
shield-bracted monkeyflower	<i>Mimulus glaucescens</i>	—/—/4.3	Cismontane woodland, valley and foothill grassland, chaparral; wet places, often in rock crevices, and in serpentine seeps (60- to 1,220-meter elevation) Blooms: February–September	Unlikely	Habitat within the reclamation area does not include chaparral or cismontane woodland. Therefore, it is unlikely shield-bracted monkeyflower would be present due to lack of preferred habitat.	No
veiny monardella	<i>Monardella venosa</i>	—/—/1B.1	Valley and foothill grassland, cismontane woodland; in heavy clay, mostly with grassland associates (rediscovered in 1992; 60- to 410-meter elevation) Blooms: May–July	Possible	Habitat within the reclamation area does not include cismontane woodland. However, veiny monardella has been documented near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is possible veiny monardella would occur within the reclamation area and the species is considered further.	Yes
Layne's butterweed (=ragweed)	<i>Packera (=Senecio) layneae</i>	FT/CR/1B.2	Chaparral, cismontane woodland; ultramafic soil, occasionally along streams (200- to 1,000-meter elevation) Blooms: April–August	Unlikely	Habitat within the reclamation area does not include chaparral or cismontane woodland. Therefore, it is unlikely Layne's butterweed would be present due to lack of preferred habitat.	No

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Ahart's paronychia	<i>Paronychia ahartii</i>	—/—/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland; stony, nearly barren clay of swales and higher ground around vernal pools (30- to 510-meter elevation) Blooms: February–June	Possible	Annual grassland and vernal pool swales in areas not substantially disturbed by previous mining could support this species. Therefore, it is possible Ahart's paronychia would occur within the reclamation area and it is considered further.	Yes
Cedar Crest popcornflower	<i>Plagiobothrys glyptocarpus</i> var. <i>modestus</i>	—/—/3	Cismontane woodland; one historical site known (870-meter elevation) Blooms: April–June	Unlikely	Habitat within the reclamation area does not include cismontane woodland. Therefore, it is unlikely Cedar Crest popcornflower would be present due to lack of preferred habitat.	No
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE/CE/1B.1	Valley and foothill grassland, cismontane woodland; clay soils, often acidic, predominantly on the northern slopes of knolls but also along shady creeks or near vernal pools (15- to 150-meter elevation) Blooms: March–April	Likely	Annual grassland, riparian stands along creeks, and vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, Hartweg's golden sunburst has been documented near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is likely Hartweg's golden sunburst would occur within the reclamation area and the species is considered further.	Yes
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	—/—/1B.2	Marshes and swamps; in standing or slow-moving freshwater ponds, marshes, and ditches (0- to 610-meter elevation) Blooms: May–October	Possible	Fresh emergent wetland and lacustrine within the reclamation area could support this species. Therefore, it is possible Sanford's arrowhead would be present on site and the species is considered further.	Yes
Brazilian watermeal	<i>Wolffia brasiliensis</i>	—/—/2B.3	Marshes and swamps; shallow freshwater marshes (20- to 100-meter elevation) Blooms: April–December	Possible	Fresh emergent wetland within the reclamation area could support this species. Therefore, it is possible Brazilian watermeal would be present on site and the species is considered further.	Yes

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INVERTEBRATES						
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE/—/—	Endemic to the grasslands of the northern two-thirds of the Central Valley, found in large, turbid pools; inhabit astatic pools (that last until June) located in swales formed by old, braided alluvium filled by winter/spring rains	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Therefore, it is possible Conservancy fairy shrimp would occur within the reclamation area and it is discussed further.	Yes
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT/—/X	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	Likely	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, vernal pool fairy shrimp has been documented near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is likely this species would occur at the mining location and it is considered further.	Yes
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 mexicana</i>); prefers to lay eggs in elderberries 2 to 8 inches in diameter, some preference shown for 'stressed' elderberries	Likely	Valley foothill riparian habitat within the reclamation area could support this species. Plus, valley elderberry longhorn beetle has been documented within and near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is likely this species would occur at the mining location and it is discussed further.	Yes
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE/—/X	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	Likely	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, vernal pool tadpole shrimp has been documented near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is likely this species would occur at the mining location and it is considered further.	Yes

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California linderiella	<i>Linderiella occidentalis</i>	—/—/—	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions; water in the pools has very low alkalinity, conductivity, and total dissolved solids	Likely	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, California linderiella has been documented near the Yuba Goldfields (using a 2-mile search radius). Therefore, it is likely this species would occur at the mining location. However, California linderiella is excluded from further analysis, because it is not a formally listed species and has no legal protection under CEQA.	No
FISH						
green sturgeon, southern DPS	<i>Acipenser medirostris</i>	FT (NOAA Fisheries)/—/SSC	These are the most marine species of sturgeon, abundance increases northward of Point Conception, spawns in the Sacramento River; spawns at temperatures between 8 and 14 degrees Celsius, preferred spawning substrate is large cobble, but can range from clean sand to bedrock	Unlikely	Although the Yuba River is within the known range of green sturgeon, southern DPS, the USFWS Anadromous Fish Restoration Program constructed and monitors an exclusion device to prevent adult fish from migrating into and becoming trapped in the Yuba Goldfields. Therefore, it is possible special status fish may be present in the adjacent Yuba River, but unlikely these species occur within the reclamation area. Furthermore, reclamation activity should not significantly impact the Yuba River (i.e., temperature, water quality, or natural flows). Consequently, green sturgeon is excluded from further analysis, because implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
Delta smelt	<i>Hypomesus transpacificus</i>	FT/CE/—	Sacramento-San Joaquin Delta, seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay; seldom found at salinities greater than 10 parts per thousand, most often at salinities less than 2 parts per thousand	Unlikely	The Yuba River is outside of the known range for this species. Therefore, it is unlikely Delta smelt would occur within or near the reclamation area.	No

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steelhead Central Valley DPS	<i>Oncorhynchus mykiss irideus</i>	FT (NOAA Fisheries)/—/X	Populations in the Sacramento and San Joaquin Rivers and their tributaries	Unlikely	Although the Yuba River is within the known range of steelhead populations (and is considered critical habitat for the species), the USFWS Anadromous Fish Restoration Program constructed and monitors an exclusion device to prevent adult fish from migrating into and becoming trapped in the Yuba Goldfields. Therefore, it is possible special status fish may be present in the adjacent Yuba River, but unlikely these species occur within the reclamation area. Furthermore, reclamation activity should not significantly impact the Yuba River (i.e., temperature, water quality, or natural flows). Consequently, steelhead is excluded from further analysis, because implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
Chinook salmon—Central Valley spring-run ESU	<i>Oncorhynchus tshawytscha</i>	FT (NOAA Fisheries)/CT/X	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel, water temperatures greater than 27 degrees Celsius is lethal to adults; federal listing refers to populations spawning in the Sacramento River and tributaries	Unlikely	Although the Yuba River is within the known range of Chinook salmon, the USFWS Anadromous Fish Restoration Program constructed and monitors an exclusion device to prevent adult fish from migrating into and becoming trapped in the Yuba Goldfields. Therefore, it is possible special status fish may be present in the adjacent Yuba River, but unlikely these species occur within the reclamation area. Furthermore, reclamation activity should not significantly impact the Yuba River (i.e., temperature, water quality, or natural flows). Consequently, Chinook salmon is excluded from further analysis, because implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No

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Chinook salmon—Central Valley fall/late fall-run ESU	<i>Oncorhynchus tshawytscha</i>	—/—/SSC	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries	Unlikely	Although the Yuba River is within the known range of Chinook salmon, the USFWS Anadromous Fish Restoration Program constructed and monitors an exclusion device to prevent adult fish from migrating into and becoming trapped in the Yuba Goldfields. Therefore, it is possible special status fish may be present in the adjacent Yuba River, but unlikely these species occur within the reclamation area. Furthermore, reclamation activity should not significantly impact the Yuba River (i.e., temperature, water quality, or natural flows). Consequently, Chinook salmon is excluded from further analysis, because implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
Chinook salmon—Sacramento River winter-run ESU	<i>Oncorhynchus tshawytscha</i>	FE (NOAA Fisheries)/CE/—	Sacramento River below Keswick Dam, spawns in the Sacramento River but not in tributary streams; requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees Celsius for spawning	Unlikely	Although the Yuba River is within the known range of Chinook salmon, the USFWS Anadromous Fish Restoration Program constructed and monitors an exclusion device to prevent adult fish from migrating into and becoming trapped in the Yuba Goldfields. Therefore, it is possible special status fish may be present in the adjacent Yuba River, but unlikely these species occur within the reclamation area. Furthermore, reclamation activity should not significantly impact the Yuba River (i.e., temperature, water quality, or natural flows). Consequently, Chinook salmon is excluded from further analysis, because implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No

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AMPHIBIANS AND REPTILES						
California tiger salamander, Central California DPS	<i>Ambystoma californiense</i>	FT/CT/SSC;X	Central Valley DPS federally listed as threatened, Santa Barbara and Sonoma Counties DPS federally listed as endangered; need underground refuges, especially ground squirrel (<i>Spermophilus</i> sp.) burrows, and vernal pools or other seasonal water sources for breeding	Possible	Habitat within the reclamation area provides this species low to moderate suitability for reproduction, cover, and foraging. Plus, there are vernal pool swales in areas not substantially disturbed by previous mining. Therefore, it is possible California tiger salamander would be present on site and the species is considered further.	Yes
western pond turtle	<i>Emys marmorata</i>	—/—/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation; need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.6 kilometers from water for egg-laying	Likely	Habitat within the reclamation area is moderately to highly suitable for reproduction, cover, and foraging by this species. Plus, western pond turtle has been documented within and near the Yuba Goldfields (2-mile search radius). Therefore, it is likely this species would occur at the mining location. However, western pond turtle is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
California red-legged frog	<i>Rana draytonii</i>	FT—/SSC; X	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation; requires 11 to 20 weeks of permanent water for larval development, must have access to estivation habitat	Possible	Fresh emergent wetland is highly suitable for reproduction, cover, and foraging by this species. Additionally, annual grassland, blue oak woodland, and lacustrine (with submerged organic and mud substrate) provide moderate suitability for reproduction, cover, and foraging. Therefore, it is possible California red-legged frog would be present on site and the species is considered further.	Yes

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mountain yellow-legged frog	<i>Rana muscosa</i>	FC (Sierra populations only)/CE (southern population)/SSC	Major drainages in the Sierra Nevada Mountains from Plumas to Tulare Counties from near 1,370 to 3,650 meters (4,500 to 12,000 feet) elevation; always encountered within a few feet of water, tadpoles may require 2 to 4 years to complete their aquatic development	Unlikely	Fresh emergent wetland and lacustrine (with organic shore substrate and/or gravel/cobble or rubble/boulder submerged or shore substrate) provides this species moderate to high suitability for reproduction, cover, and foraging. However, the reclamation area is situated in the Sacramento Valley at about 120 feet elevation. Therefore, based on the general elevation that this species usually occurs, it is unlikely mountain yellow-legged frog would occur within the area.	No
giant garter snake	<i>Thamnophis gigas</i>	FT/CT/—	Prefers freshwater marsh and low gradient streams, has adapted to drainage canals and irrigation ditches; this is the most aquatic of the garter snakes in California	Likely	Fresh emergent wetland and valley foothill riparian habitats provide high suitability for reproduction, cover, and foraging by this species. Plus, lacustrine provides high suitability for cover and foraging and valley oak woodland provides moderate suitability for reproduction and cover. Therefore, it is likely giant garter snake would be present on site and the species is considered further.	Yes

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BIRDS						
tricolored blackbird	<i>Agelaius tricolor</i>	—/—/SSC	Highly colonial species, most numerous in the Central Valley and vicinity, largely endemic to California; requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony	Likely	Tall (12.1 inches or more) fresh emergent wetland and smaller (trees with a 23.9-inch diameter at breast height [dbh] or less) valley foothill riparian habitats are moderately to highly suitable for tricolored blackbird to reproduce, find cover, and forage. Annual grassland is also highly suitable for this species to forage. Additionally, tricolored blackbird has been documented within and near the Yuba Goldfields (2-mile search radius). Therefore, it is likely this bird would occur at the mining location. However, tricolored blackbird is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
grasshopper sparrow	<i>Ammodramus savannarum</i>	—/—/SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes; favors native grasslands with a mix of grasses, forbs, and scattered shrubs, loosely colonial when nesting	Likely	Dense (40% or greater vegetation closure) annual grassland is moderately to highly suitable for grasshopper sparrow to reproduce, find cover, and forage during the summer. Therefore, it is likely this bird would occur seasonally at the mining location. However, grasshopper sparrow is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No

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long-eared owl	<i>Asio otus</i>	—/—/SSC	Riparian bottomlands grown to tall willows (<i>Salix</i> sp.) and cottonwoods (<i>Populus</i> sp.), also belts of live oak (<i>Quercus agrifolia</i>) parallel to stream courses; require adjacent open land productive of mice (<i>Mus</i> sp.) and the presence of old nests of crows (<i>Corvus</i> sp.), hawks (various sp.), or magpies (<i>Pica nuttalli</i>) for breeding	Likely	Denser (25% or greater canopy closure) blue oak woodland, valley foothill riparian, and valley oak woodland habitats are moderately to highly suitable for long-eared owl to reproduce, find cover, and forage. Annual grassland is also highly suitable for foraging by this species. Therefore, it is likely this bird would occur at the mining location. However, long-eared owl is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
burrowing owl	<i>Athene cunicularia</i>	—/—/SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation; subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Spermophilus beecheyi</i>)	Likely	Annual grassland is moderately to highly suitable for burrowing owl to reproduce, find cover, and forage. Younger (trees with a dbh of 5.9 inches or less) blue oak woodland and valley oak woodland habitats are also moderately to highly suitable for reproduction, finding cover, and foraging by this species. Additionally, burrowing owl has been documented within and near the Yuba Goldfields (2-mile search radius). Therefore, it is likely this bird would occur at the mining location. Although burrowing owl is not formally listed, CDFW has provided specific guidelines for species management that are discussed further.	Yes

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Swainson's hawk	<i>Buteo swainsoni</i>	—/CT/—	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands; requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations	Likely	Annual grassland is moderately to highly suitable for Swainson's hawk to reproduce, find cover, and forage. Mature (trees 24 inches or greater dbh) blue oak woodland, valley foothill riparian, and valley oak woodland habitats are also highly suitable for reproduction and cover by this species. Additionally, Swainson's hawk has been documented within and near the Yuba Goldfields (2-mile search radius) during the summer. Therefore, it is likely this hawk would be present on site seasonally and the species is considered further.	Yes
northern harrier	<i>Circus cyaneus</i>	—/—/SSC	Coastal salt and freshwater marsh, nest and forage in grasslands from salt grass in desert sink to mountain cienegas; nests on ground in shrubby vegetation, usually at marsh edge, nest built of a large mound of sticks in wet areas	Likely	Annual grassland and fresh emergent wetland habitats are moderately to highly suitable for northern harrier to reproduce, find cover, and forage. Younger stages (open canopy, seedling and sapling trees) of blue oak woodland, valley foothill riparian, and valley oak woodland habitats as well as lacustrine also provide moderate suitability for foraging by this species. Therefore, it is likely this raptor would occur at the mining location. However, northern harrier is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FC/CE/—	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems; nests in riparian jungles of willow (<i>Salix</i> sp.), often mixed with cottonwoods (<i>Populus</i> sp.), with a lower story of blackberry (<i>Rubus vitifolius</i>), nettles (<i>Urtica californica</i>), or wild grape (<i>Vitis californica</i>)	Possible	Somewhat mature (trees with 6.0-inch dbh or greater) valley foothill riparian provides moderate to high suitability for reproduction, cover, and foraging by this species during the summer. Therefore, it is possible western yellow-billed cuckoo would be present on site seasonally and the species is considered further.	Yes

TABLE E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site

Table E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site						
Common Name	Scientific Name	Status (Federal/State/CNPS, CDFW, or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely; Possible; Unlikely)	Rationale	Included in Analysis?
yellow warbler	<i>Dendroica petechia brewsteri</i>	—/—/SSC	Riparian plant associations, prefers willows (<i>Salix</i> sp.), cottonwoods (<i>Populus</i> sp.), aspens (<i>Populus</i> sp.), sycamores (<i>Platanus</i> sp.), and alders (<i>Alnus</i> sp.) for nesting and foraging; also nests in montane shrubbery in open conifer forests	Likely	Valley foothill riparian habitat provides moderate to high suitability for yellow warbler to reproduce, find cover, and forage during the summer. Blue oak woodland and valley oak woodland habitats are also moderately suitable for cover and highly suitable for forage by this species. Therefore, it is likely this bird would occur seasonally at the mining location. However, yellow warbler is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
white-tailed kite	<i>Elanus leucurus</i>	—/—/FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland; open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching	Likely	Somewhat mature (trees with 6.0-inch dbh or greater) blue oak woodland, valley foothill riparian, and valley oak woodland habitats provide moderate to high suitability for reproduction, cover, and foraging by white-tailed kite. Annual grassland and fresh emergent wetland habitats are also moderately to highly suitable as forage habitat for this species. Therefore, it is likely white-tailed kite would be present on site and the species is considered further.	Yes
bald eagle	<i>Haliaeetus leucocephalus</i>	FD/CE/FP	Ocean shore, lake margins, and rivers for both nesting and wintering, most nests within 1 mile of water; nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine (<i>Pinus ponderosa</i>), roosts communally in winter	Possible	Fresh emergent wetland and valley foothill riparian habitats provide moderate suitability for foraging by bald eagle. Lacustrine habitat is also highly suitable for this species to forage. Therefore, it is possible bald eagle would be present on site, but as a foraging transient. Consequently, bald eagle is excluded from further analysis, because implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No

TABLE E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site

Table E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site						
Common Name	Scientific Name	Status (Federal/State/CNPS, CDFW, or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely; Possible; Unlikely)	Rationale	Included in Analysis?
California black rail	<i>Laterallus jamaicensis coturniculus</i>	—/CT/FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays; needs water depths of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat	Likely	Medium to dense (40% vegetation closure or more) fresh emergent wetland habitat is moderately to highly suitable for California black rail to reproduce, find cover, and forage. Additionally, this species has been documented near the Yuba Goldfields (2-mile search radius). Therefore, it is likely California black rail would be present on site and the species is considered further.	Yes
song sparrow ("Modesto" population)	<i>Melospiza melodia</i>	—/—/SSC	Shrubs, marshes, fields, watersides; dense shrubs at the edge of open areas such as fields, lawns, or streams, seems to prefer emergent freshwater marshes dominated by tules (<i>Scirpus</i> sp.) and cattails (<i>Typha</i> sp.) as well as riparian willow (<i>Salix</i> sp.) thickets or riparian forests of valley oak (<i>Quercus lobata</i>) and blackberry (<i>Rubus vitifolius</i>) but ecological requirements largely undescribed	Likely	Medium to dense (40% vegetation closure or more) fresh emergent wetland and less dense (less than 60% canopy closure) valley foothill riparian habitats are moderately to highly suitable for song sparrow to reproduce, find cover, and forage. Therefore, it is likely this species would occur at the mining location. However, song sparrow is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
bank swallow	<i>Riparia riparia</i>	—/CT/—	Colonial nester, nests primarily in riparian and other lowland habitats west of the desert; requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole	Likely	Annual grassland habitat provides high suitability for reproduction, cover, and foraging and fresh emergent wetland habitat provides high suitability for foraging by bank swallow. Lacustrine with muddy and sandy shores as well as valley foothill riparian habitats are also moderately to highly suitable for reproduction, cover, and foraging by this species. Therefore, it is likely bank swallow would be present on site and the species is considered further.	Yes

TABLE E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site

Table E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site						
Common Name	Scientific Name	Status (Federal/State/CNPS, CDFW, or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely; Possible; Unlikely)	Rationale	Included in Analysis?
MAMMALS						
western red bat	<i>Lasiurus blossevillii</i>	—/—/SSC	Roosts primarily in trees, 2 to 40 feet above the ground, from sea level up through mixed coniferous forests; prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging	Possible	Blue oak woodland, valley foothill riparian, and valley oak woodland habitats (with pole, small, or medium/large trees and a canopy closure less than 60%) are moderately suitable for western red bat to reproduce, find cover, and forage. Also, annual grassland provides moderate suitability for foraging by this species. Therefore, it is possible this bat would occur at the mining location. However, western red bat is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
hoary bat	<i>Lasiurus cinereus</i>	—/—/—	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding; roosts in dense foliage of medium to large trees, feeds primarily on moths and requires a nearby water source	Likely	Blue oak woodland, valley foothill riparian, and valley oak woodland habitats (with pole, small, or medium/large trees and a canopy closure less than 60%) are moderately to highly suitable for hoary bat to reproduce, find cover, and forage. Therefore, it is likely this bat would occur at the mining location. However, hoary bat is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No
Fisher (west coast DPS)	<i>Martes pennanti</i>	FC/CTC/SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure; uses cavities, snags, logs, and rocky areas for cover and for dens, needs large areas of mature, dense forest	Unlikely	Habitat within the reclamation area is not typically suitable for reproduction, cover, or foraging by this species. Therefore, it is unlikely fisher would occur at the mining location.	No

TABLE E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site

Table E-1 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site						
Common Name	Scientific Name	Status (Federal/State/CNPS, CDFW, or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely; Possible; Unlikely)	Rationale	Included in Analysis?
Yuma myotis	<i>Myotis yumanensis</i>	—/—/—	Optimal habitats are open forests and woodlands with sources of water over which to feed; distribution is closely tied to bodies of water, maternity colonies in caves, mines, buildings or crevices	Likely	Blue oak woodland and valley oak woodland habitats (with pole, small, or medium/large trees) are moderately to highly suitable for Yuma myotis to reproduce, find cover, and forage. Annual grassland and valley foothill riparian habitats are also suitable for foraging by this species. Therefore, it is likely this bat would occur at the mining location. However, Yuma myotis is excluded from further analysis, because it is not a formally listed species and implementation of the Amended Reclamation Plan (and habitat restoration) is not expected to significantly impact the species population.	No

SOURCES: California Department of Fish and Wildlife, Biogeographic Data Branch, California Natural Diversity Database Rarefind 5 (Sacramento, CA, 2013) (accessed October 9, 2013); California Department of Fish and Wildlife, Biogeographic Data Branch, Wildlife Habitats by County, On-line Inventory (Sacramento, CA, 2013) (accessed October 9, 2013); California Native Plant Society, Inventory of Rare and Endangered Plants, Online Inventory, 8th Edition (2013), <http://www.rareplants.cnps.org/> (accessed October 9, 2013).

CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CFGC = California Fish and Game Code; CNDDDB = California Natural Diversity Database; DPS = Distinct Population Segment; ESU = Evolutionarily Significant Unit; MBTA = Migratory Bird Treaty Act; USFWS = U.S. Fish and Wildlife Service; USGS = U.S. Geological Survey

STATUS CODES:

— = No status to date

FESA: Federal Endangered Species Act of 1973 (as amended)

- FC Candidate for federal listing
- FD Federally delisted or removed from listing
- FE Federally listed as endangered
- FT Federally listed as threatened
- NOAA Fisheries Species under the jurisdiction of the National Oceanic and Atmospheric Administration National Marine Fisheries Service

CESA: California Endangered Species Act

- CE Listed as endangered in California
- CR Designated as rare in California by CDFW
- CT Listed as threatened in California
- CTC Candidate for listing as a threatened species in California

CNPS: California Native Plant Society

- 1B.1 Rare, Threatened, or Endangered in California and elsewhere; seriously threatened in California
- 1B.2 Rare, Threatened, or Endangered in California and elsewhere; moderately threatened in California
- 2B.2 Rare, Threatened, or Endangered in California, but more common elsewhere; moderately threatened in California
- 2B.3 Rare, Threatened, or Endangered in California, but more common elsewhere; not very threatened in California
- 3 More information is needed to assign another rank; a review list of plants
- 4.2 Limited distribution, a watch list of plants; moderately threatened in California
- 4.3 Limited distribution, a watch list of plants; not very threatened in California
- FP CDFW Fully Protected Species
- SSC CDFW Species of Special Concern
- X Critical Habitat designated for this species

TABLE E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study

Table E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study					
Common Name	Scientific Name	Status (Federal/State/CNPS or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely/Possible/Unlikely)	Rationale
PLANTS					
Ferris' milk-vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	—/—/1B.1	Meadows, valley and foothill grassland; subalkaline flats on overflow land in the Central Valley, usually seen in dry, adobe soil (5- to 75-meter elevation) Blooms: April–May	Possible	Although presumed extirpated, the CNPS includes the Yuba City USGS quadrangle within the known distribution range of this species.
dwarf downingia	<i>Downingia pusilla</i>	—/—/2B.2	Valley and foothill grassland (mesic sites), vernal pools; vernal lake and pool margins with a variety of associates, in several types of vernal pools (1- to 485-meter elevation) Blooms: March–May	Likely	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, the CNDDDB shows dwarf downingia occurrences in the vicinity of the reclamation area (within a 2-mile radius).
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	—/—/1B.2	Vernal pools, valley and foothill grassland; restricted to the edges of vernal pools (30- to 229-meter elevation) Blooms: March–May	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species.
Red Bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	—/—/1B.1	Chaparral, valley and foothill grassland, cismontane woodland, vernal pools, meadows and seeps; vernal mesic sites, sometimes on edges of vernal pools (35- to 1,250-meter elevation) Blooms: March–June	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species.
legenere	<i>Legenere limosa</i>	—/—/1B.1	Vernal pools, many historical occurrences are extirpated; in beds of vernal pools (1- to 880-meter elevation) Blooms: April–June	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species.
veiny monardella	<i>Monardella venosa</i>	—/—/1B.1	Valley and foothill grassland, cismontane woodland; in heavy clay, mostly with grassland associates (rediscovered in 1992; 60- to 410-meter elevation) Blooms: May–July	Possible	The CNDDDB shows veiny monardella occurrences in the vicinity of the reclamation area (within a 2-mile radius).

TABLE E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study

Table E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study					
Common Name	Scientific Name	Status (Federal/State/CNPS or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely/Possible/Unlikely)	Rationale
Ahart's paronychia	<i>Paronychia ahartii</i>	—/—/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland; stony, nearly barren clay of swales and higher ground around vernal pools (30- to 510-meter elevation) Blooms: February–June	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species.
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE/CE/1B.1	Valley and foothill grassland, cismontane woodland; clay soils, often acidic, predominantly on the northern slopes of knolls but also along shady creeks or near vernal pools (15- to 150-meter elevation) Blooms: March–April	Likely	Riparian stands along creeks and vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, the CNDDDB shows Hartweg's golden sunburst occurrences in the vicinity of the reclamation area (within a 2-mile radius).
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	—/—/1B.2	Marshes and swamps; in standing or slow-moving freshwater ponds, marshes, and ditches (0- to 610-meter elevation) Blooms: May–October	Possible	The CNPS includes Yuba County within the known distribution range of this species.
Brazilian watermeal	<i>Wolffia brasiliensis</i>	—/—/2B.3	Marshes and swamps; shallow freshwater marshes (20- to 100-meter elevation) Blooms: April–December	Possible	The CNPS includes the Camp Far West USGS quadrangle within the known distribution range of this species.
INVERTEBRATES					
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE/—/—	Endemic to the grasslands of the northern two-thirds of the Central Valley, found in large, turbid pools; inhabit astatic pools (that last until June) located in swales formed by old, braided alluvium filled by winter/spring rains	Possible	Vernal pool swales in areas not substantially disturbed by previous mining could support this species.
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT/—/X	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	Likely	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, the CNDDDB shows vernal pool fairy shrimp occurrences in the vicinity of the reclamation area (within a 2-mile radius).

TABLE E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study

Table E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study					
Common Name	Scientific Name	Status (Federal/State/CNPS or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely/Possible/Unlikely)	Rationale
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 mexicana</i>); prefers to lay eggs in elderberries 2- to 8 inches in diameter, some preference shown for 'stressed' elderberries	Likely	The CNDDDB shows valley elderberry longhorn beetle occurrences within the reclamation area and in the immediate vicinity (within a 2-mile radius).
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE/—/X	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	Likely	Vernal pool swales in areas not substantially disturbed by previous mining could support this species. Plus, the CNDDDB shows vernal pool tadpole shrimp occurrences in the vicinity of the reclamation area (within a 2-mile radius).
AMPHIBIANS AND REPTILES					
California tiger salamander, Central California DPS	<i>Ambystoma californiense</i>	FT/CT/SSC;X	Central Valley DPS federally listed as threatened, Santa Barbara and Sonoma Counties DPS federally listed as endangered; need underground refuges, especially ground squirrel (<i>Spermophilus</i> sp.) burrows, and vernal pools or other seasonal water sources for breeding	Possible	Although Yuba County is outside the known distribution for this species (Yolo to Kern County is the current central valley range), vernal pool swales in areas not substantially disturbed by previous mining could provide breeding habitat for California tiger salamander.
California red-legged frog	<i>Rana draytonii</i>	FT/—/SSC; X	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation; requires 11- to 20 weeks of permanent water for larval development, must have access to estivation habitat	Possible	Habitat within the reclamation area could support this species.
giant garter snake	<i>Thamnophis gigas</i>	FT/CT/—	Prefers freshwater marsh and low gradient streams, has adapted to drainage canals and irrigation ditches; this is the most aquatic of the garter snakes in California	Likely	Habitat within the reclamation area could support this species.

TABLE E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study

Table E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study					
Common Name	Scientific Name	Status (Federal/State/CNPS or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely/Possible/Unlikely)	Rationale
BIRDS					
burrowing owl	<i>Athene cunicularia</i>	—/—/SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation; subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Spermophilus beecheyi</i>)	Likely	The CNDDDB shows burrowing owl occurrences within the reclamation area and in the immediate vicinity (within a 2-mile radius).
Swainson's hawk	<i>Buteo swainsoni</i>	—/CT/—	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands; requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations	Likely	The CNDDDB shows Swainson's hawk occurrences within the reclamation area and in the immediate vicinity (within a 2-mile radius).
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FC/CE/—	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems; nests in riparian jungles of willow (<i>Salix</i> sp.), often mixed with cottonwoods (<i>Populus</i> sp.), with a lower story of blackberry (<i>Rubus vitifolius</i>), nettles (<i>Urtica californica</i>), or wild grape (<i>Vitis californica</i>)	Possible	Habitat within the reclamation area could support this species.
white-tailed kite	<i>Elanus leucurus</i>	—/—/FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland; open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching	Likely	Habitat within the reclamation area could support this species.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	—/CT/FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays; needs water depths of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat	Likely	The CNDDDB shows California black rail occurrences in the vicinity of the reclamation area (within a 2-mile radius).

TABLE E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study

Table E-2 Listed, Proposed, and Sensitive Species Potentially Occurring on the Project Site Requiring Further Study					
Common Name	Scientific Name	Status (Federal/State/CNPS or Critical Habitat)	General Habitat Description	Species' Presence on Site (Likely/Possible/Unlikely)	Rationale
bank swallow	<i>Riparia riparia</i>	—/CT/—	Colonial nester, nests primarily in riparian and other lowland habitats west of the desert; requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole	Likely	Habitat within the reclamation area could support this species.
raptors (birds of prey, such as falcons, hawks, owls) as well as other migratory and resident birds	Not applicable	MBTA; CFGC § 3503.5; —	Various habitats	Likely	Trees within and adjacent to the reclamation area provide potential nest sites for raptors that could also forage within the area. Migratory birds nest in a variety of habitats, including disturbed areas. Therefore, it is likely nesting avian species occur in the Yuba Goldfields during appropriate times of year (or specific species breeding season).

SOURCES: California Department of Fish and Wildlife, Biogeographic Data Branch, California Natural Diversity Database Rarefind 5 (Sacramento, CA, 2013) (accessed October 9, 2013); California Department of Fish and Wildlife, Biogeographic Data Branch, Wildlife Habitats by County, On-line Inventory (Sacramento, CA, 2013) (accessed October 9, 2013); California Native Plant Society, Inventory of Rare and Endangered Plants, Online Inventory, 8th Edition (2013), <http://www.rareplants.cnps.org/> (accessed October 9, 2013).

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- 2B.3 Rare, Threatened, or Endangered in California, but more common elsewhere; not very threatened in California
- FP California Department of Fish and Wildlife Fully Protected Species
- SSC California Department of Fish and Wildlife Species of Special Concern
- X Critical Habitat designated for this species

TABLE E-3 Bird Species Observed along the Flight Line at Beale AFB That Could Also Occur within the Project Site and Associated Hazard Information

Table E-3 Bird Species Observed along the Flight Line at Beale AFB That Could Also Occur within the Project Site and Associated Hazard Information			
Common Name	Scientific Name	General Habitat Description^a	Relative BASH Hazard Score (100 = greatest potential hazard; 64=highest bird hazard score)^b
FAMILY ACCIPITRIDAE (HAWKS, KITES, EAGLES)			
Cooper's hawk	<i>Accipiter cooperii</i>	Mixed forests and open woodlands	25
golden eagle	<i>Aquila chrysaetos</i>	Mountains, foothills, and adjacent grasslands	41
rough-legged hawk	<i>Buteo lagopus</i>	Summers at the arctic tree line; winters in open country	25
red-shouldered hawk	<i>Buteo lineatus</i>	Woodlands and swamps	25
ferruginous hawk	<i>Buteo regalis</i>	Arid open land and grasslands	25
northern harrier	<i>Circus cyaneus</i>	Open fields, grasslands, prairies, marshes	25
white-tailed kite	<i>Elanus leucurus</i>	Grasslands with scattered trees, near marshes, along highways	25
bald eagle	<i>Haliaeetus leucocephalus</i>	Along coasts, lakes, and large rivers	41
FAMILY AEGITHALIDAE (BUSHTITS)			
bushtit	<i>Psaltriparus minimus</i>	Open woods, chaparral, suburbs, parks, and gardens	—
FAMILY ALAUDIDAE (LARKS)			
horned lark	<i>Eremophila alpestris</i>	Open ground with low vegetation	17
FAMILY ANATIDAE (DUCKS, GEESE, SWANS)			
northern pintail	<i>Anas acuta</i>	Summers on open marshes and ponds; winters on coastal bays, lakes, and agricultural fields	39
American wigeon	<i>Anas americana</i>	Summers on lakes and marshes; winters on wet meadows, lakes, protected coastal waters	39
northern shoveler	<i>Anas clypeata</i>	Summers on open shallow lakes and marshes; winters also on protected coastal areas	39
mallard	<i>Anas platyrhynchos</i>	Lakes, rivers, bays, parks	39
greater white-fronted goose	<i>Anser albifrons</i>	Summers on tundra lakes and rivers; winters on wetlands, fields, and agricultural land	55
ring-necked duck	<i>Aythya collaris</i>	Summers on open lakes, marshes; winters on large lakes and coastal areas	39
Canada goose	<i>Branta canadensis</i>	Summers on lakes, marshes; winters on lakes, bays, fields, parks	55
snow goose	<i>Chen caerulescens</i>	Summers on tundra; winters on agricultural fields and wetlands	55

TABLE E-3 Bird Species Observed along the Flight Line at Beale AFB That Could Also Occur within the Project Site and Associated Hazard Information

Table E-3 Bird Species Observed along the Flight Line at Beale AFB That Could Also Occur within the Project Site and Associated Hazard Information			
Common Name	Scientific Name	General Habitat Description^a	Relative BASH Hazard Score (100 = greatest potential hazard; 64=highest bird hazard score)^b
Ross's goose	<i>Chen rossii</i>	Summers on tundra; winters on agricultural fields and wetlands	55
tundra swan	<i>Cygnus columbianus</i>	Summers on tundra; winters on lakes, ponds, open marshes	55
FAMILY ARDEIDAE (HERONS, BITTERNS)			
great egret	<i>Ardea alba</i>	Marshes, swamps, seashores, lake margins	27
great blue heron	<i>Ardea herodias</i>	Marshes, swamps, river and lake edges, tidal flats, mangroves, other water areas	27
snowy egret	<i>Egretta thula</i>	Coastal areas, marshes, river valleys, lake edges	27
black-crowned night-heron	<i>Nycticorax nycticorax</i>	Diverse—freshwater streams, lakes, rice fields, dry grasslands, salt marshes	27
FAMILY CATHARTIDAE (NEW WORLD VULTURES)			
turkey vulture	<i>Cathartes aura</i>	Open country and dumps, occasionally roosts in urban areas	64
FAMILY CHARADRIIDAE (LAPWINGS, PLOVERS)			
killdeer	<i>Charadrius vociferous</i>	Open ground with gravel or short grass; suburban or rural	10
FAMILY COLUMBIDAE (PIGEONS, DOVES)			
rock dove	<i>Columba livia</i>	Cities, parks, bridges, steep cliffs	23
mourning dove	<i>Zenaida macroura</i>	Can be found in almost any open habitat, including suburban areas	14
FAMILY CORVIDAE (CROWS AND JAYS)			
western scrub-jay	<i>Aphelocoma californica</i>	Variety of habitats, including brushy, open country, desert scrub, orchards, canyons	16
American crow	<i>Corvus brachyrhynchos</i>	Varied habitats	16
common raven	<i>Corvus corax</i>	Mountains, forests, canyons, deserts; coast	16
yellow-billed magpie	<i>Pica nuttalli</i>	Farmlands, protected valleys with streams	16
FAMILY EMBERIZIDAE (TOWHEES, SPARROWS, LONGSPURS, AND EMBERIZA BUNTINGS)			
dark-eyed junco	<i>Junco hyemalis</i>	Summers in woods, wood edges, bogs, mountains above tree level; winters in wood edges, brush	4

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Common Name	Scientific Name	General Habitat Description^a	Relative BASH Hazard Score (100 = greatest potential hazard; 64=highest bird hazard score)^b
savannah sparrow	<i>Passerculus sandwichensis</i>	A variety of moist tall grass areas—meadows, beaches, lake and river edges; varied habitats in winter	4
spotted towhee	<i>Pipilo maculatus</i>	Open woods with shrub understory	4
vesper sparrow	<i>Pooecetes gramineus</i>	Dry fields with sparse vegetation, occasionally beach grass, sagebrush, forest clearings, or agricultural fields	4
golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	Summers in mountain thickets and shrubs; winters in brushy areas	4
white-crowned sparrow	<i>Zonotrichia leucophrys</i>	Varied; includes wet meadows, shrubby borders, woods, gardens, parks	4
FAMILY FALCONIDAE (CARACARAS, FALCONS)			
prairie falcon	<i>Falco mexicanus</i>	Plains, grasslands, and other open country	9
American kestrel	<i>Falco sparverius</i>	A wide variety of open habitats, including urban areas	9
FAMILY HIRUNDINIDAE (SWALLOWS)			
tree swallow	<i>Tachycineta bicolor</i>	Open areas near woods and water	4
violet-green swallow	<i>Tachycineta thalassina</i>	Open mountain woodlands, suburbs	4
FAMILY ICTERIDAE (BLACKBIRDS)			
red-winged blackbird	<i>Agelaius phoeniceus</i>	Marshes and meadows	10
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	Wet meadows, rivers, stream margins bordered by dense shrubs, cultivated areas, parks, desert oases, urban areas, roadsides	10
western meadowlark	<i>Sturnella neglecta</i>	Meadows, grasslands	7
FAMILY LANIIDAE (SHRIKES)			
loggerhead shrike	<i>Lanius ludovicianus</i>	Open country with some shrubs and trees	—
FAMILY LARIDAE (SKUAS, GULLS, TERNS, SKIMMERS)			
California gull	<i>Larus californicus</i>	Summers on lakes; winters along coast	24
western gull	<i>Larus occidentalis</i>	Coastal	24

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Common Name	Scientific Name	General Habitat Description^a	Relative BASH Hazard Score (100 = greatest potential hazard; 64=highest bird hazard score)^b
FAMILY MOTACILLIDAE (WAGTAILS AND PIPITS)			
American pipit	<i>Anthus rubescens</i>	Tundra, open fields	—
FAMILY ODONTOPHORIDAE (NEW WORLD QUAIL)			
California quail	<i>Callipepla californica</i>	Open woodlands or shrubby areas, parks, and suburbs; usually near water	—
FAMILY PARIDAE (CHICKADEES AND TITMICE)			
oak titmouse	<i>Baeolophus (=Parus) inornatus</i>	Sparse pinyon-juniper and oak woodlands	—
FAMILY PARULIDAE (WOOD-WARBLERS)			
yellow-rumped warbler	<i>Dendroica coronata</i>	Coniferous or mixed forests; in winter, brushy thickets of bayberry and wax myrtle	—
FAMILY PASSERIDAE (OLD WORLD SPARROWS)			
house sparrow	<i>Passer domesticus</i>	Urban areas, parks, open farmland	4
FAMILY PHALACROCORACIDAE (CORMORANTS)			
double-crested cormorant	<i>Phalacrocorax auritus</i>	Coasts, inland rivers, and lakes	54
FAMILY PHASIANIDAE (PARTRIDGES, GROUSE, TURKEYS)			
ring-necked pheasant	<i>Phasianus colchicus</i>	Farmlands with wood edges and hedgerows	33
FAMILY PICIDAE (WOODPECKERS)			
northern flicker	<i>Colaptes auratus</i>	Parks, suburbs, farmlands, woodlands	—
Nuttall's woodpecker	<i>Picoides nuttallii</i>	Shrublands, streamsides, and oak woods	—
downy woodpecker	<i>Picoides pubescens</i>	Woods, farmlands, suburbs	—
FAMILY PODICIPEDIDAE (GREBES)			
ped-billed grebe	<i>Podilymbus podiceps</i>	Summers on lakes and ponds; winters also in sheltered saltwater bays	54

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Common Name	Scientific Name	General Habitat Description^a	Relative BASH Hazard Score (100 = greatest potential hazard; 64=highest bird hazard score)^b
FAMILY RALLIDAE (RAILS, GALLINULES, COOTS)			
American coot	<i>Fulica americana</i>	Summers on marshy lakes; winters also along the coast	39
FAMILY REGULIDAE (KINGLETS)			
ruby-crowned kinglet	<i>Regulus calendula</i>	Summers in coniferous woods; winters in woods and brushy edges	—
FAMILY STURNIDAE (STARLINGS)			
European starling	<i>Sturnus vulgaris</i>	Urban and suburban areas	10
FAMILY TROGLODYTIDAE (WRENS)			
marsh wren	<i>Cistothorus palustris</i>	Marshy areas, especially with tall cattails and rushes	—
Bewick's wren	<i>Thryomanes bewickii</i>	Thickets, brush, and open woodlands in rural and suburban areas	—
FAMILY TURDIDAE (THRUSHES)			
mountain bluebird	<i>Sialia currucoides</i>	Summers in mountain meadows, open rangeland, open coniferous woods, sagebrush; winters in lowlands, including desert	—
American robin	<i>Turdus migratorius</i>	In many environments, from woods to open lawns and plains to timberline	—
FAMILY TYRANNIDAE (TYRANT FLYCATCHERS)			
black phoebe	<i>Sayornis nigricans</i>	Wooded streams and canyons, farms and suburbs near water	—
Say's phoebe	<i>Sayornis saya</i>	Arid open areas with sparse vegetation	—
<p>SOURCES: Cain, James W., et.al. <i>Bird Habitat Use and Bird-Aircraft Strikes at Beale Air Force Base, California</i>, Transactions of the Western Section of the Wildlife Society, 40:90-100 (2004); a. Donald and Lillian Stokes, <i>Stokes Field Guide to Birds, Western Region</i> (Boston: Little, Brown and Company, 1996); b. Federal Aviation Administration (FAA), <i>General Separation Criteria for Hazardous Wildlife Attractants on or Near Airports</i>, Advisory Circular (AC) 150/5200-33B (August 2007). — = No specific Relative Hazard Score or specific management techniques were provided for this species or close relatives; AFB = air force base; BASH = bird/wildlife aircraft strike hazard</p>			

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