

SPECIES NAME COMMON NAME	LISTING STATUS ¹	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
FEDERAL/STATE LISTED, PROPOSED, CANDIDATE AND/OR FULLY PROTECTED SPECIES				
INVERTEBRATES:				
<i>Bombus crotchii</i> Crotch bumble bee	SC	This species occurs from coastal California east to the Sierra Nevada Cascade crest. It occurs at relatively warm and dry sites in open grassland and scrub habitats. Colonies are annual and only the new, mated queens overwinter. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.	The nearest CNDDDB occurrence, (EONDX #98547, from 1910) occurs approximately 1.7 miles south of the treatment areas. The treatment areas include potentially suitable open grassland and scrub landcover types. Recent verified sightings in Sonoma County suggest that the species may be present (Bumble Bee Watch 2024).	Possible
<i>Bombus occidentalis</i> western bumble bee	SC	A medium-sized (1-2 cm) bumble bee with a short head. The abdomen is color variable, but all individuals have a transverse band of yellow hair on the thorax in front of the wing bases, and the tip of the abdomen is almost always white. Western Bumble Bee lives in a diverse range of habitats, including mixed woodlands, farmlands, urban areas, montane meadows and into the western edge of the prairie grasslands. Like many bumble bees, it typically nests underground in abandoned rodent burrows or within hollows in decaying wood (COSEWIC 2014). Widespread use of pesticides in agricultural lands and habitat fragmentation are thought to have led to severe declines of the species.	The nearest CNDDDB occurrence, (EONDX #99884, from 1910) occurs approximately 1.7 miles south of the treatment areas. Western bumblebee is thought to be extirpated from the San Francisco Bay Area as there are no known occurrences after 2000 (Hatfield and Jepson 2021, Bumble Bee Watch 2024).	Not Expected
<i>Danaus plexippus</i> pop. 1 monarch – California overwintering population	FC	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Host plant is the milkweed (<i>Asclepius</i> spp.). Lifespan reaches >9 months. Fall migration occurs from August-October. Along the California Coast, overwintering roosts typically occur in stands of eucalyptus, pine and cypress trees in proximity to milkweed	The nearest CNDDDB occurrence, (EONDX #22943, from 1986) occurs approximately 14.2 miles south of the treatment areas. The treatment areas lack cypress or eucalyptus stands used by this species for winter roosting.	None
<i>Syncaris pacifica</i> California freshwater shrimp	FE SE	Inhabits low elevation (<380 feet) perennial and intermittent freshwater streams with structurally diverse pools and streambanks below 380 feet. Requires high water quality with minimal pollution and high oxygen content. The shrimp is endemic to Marin, Napa and Sonoma counties and is currently known from 17 coastal streams including Lagunitas, Walker, Stemple, Salmon, Austin, Green Valley, Laguna de la Santa Rosa, Huichica and Sonoma creeks and the Napa River (USFWS 2022).	The nearest CNDDDB occurrence, (EONDX #23139, from 2013) occurs approximately 0.73 miles west of the treatment areas in Sonoma Creek. Stuart Creek is a perennial creek that runs through the treatment areas and drains into Sonoma Creek. Stuart Creek represents potentially suitable aquatic habitat for this species.	Possible
FISH:				

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<p><i>Oncorhynchus mykiss irideus</i> pop. 8 steelhead – central California coast DPS</p>	<p>FT</p>	<p>An anadromous fish that spend several years in the ocean; returning to freshwater rivers to spawn and rear. Listing includes all naturally spawned anadromous steelhead populations (and their progeny) below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs (70 FR 37160). Designated critical habitat encompasses 2,308 miles streams, 254 square miles estuary habitat in Tehama, Butte, Glenn, Shasta, Yolo, Sacramento, Solano, Yuba, Sutter, Placer, Calaveras, San Joaquin, Stanislaus, Tuolumne, Merced, Alameda, Contra Costa counties (70 FR 52488). The North Diablo Range watershed and South San Francisco Bay entire unit were excluded from the designation based on their potential economic impact (70 FR 52488). Primary constituent elements include: (1) freshwater spawning sites, (2) freshwater rearing sites, (3) freshwater migration corridors free of obstructions, (4) estuarine areas free of obstructions, and (5) nearshore marine areas free of obstructions (70 FR 52488).</p>	<p>The nearest CNDDDB occurrence, (EONDX #97911 from 2014) occurs within Stuart Creek which runs through the treatment areas. Stuart Creek is a perennial creek that runs through the treatment areas and drains into Sonoma Creek. Stuart Creek represents potentially suitable aquatic habitat for this species.</p>	<p>Possible</p>

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<i>Spirinchus thaleichthys</i> longfin smelt	FC ST	The longfin smelt is a pelagic (lives in open water) estuarine fish that typically measures 3.5 to 4.3 inches standard length, although third-year females may grow up to 5.9 inches. The longfin smelt (<i>Spirinchus thaleichthys</i>) belongs to the true smelt family Osmeridae, and is one of three species in its genus. Longfin smelt occupy different habitats of the estuary at various stages in their life cycle. Longfin smelt generally spawn in freshwater and then move downstream to brackish water to rear. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater, although once past the juvenile stage, they are typically collected in waters with salinities ranging from 14 to 28 parts per thousand (ppt) (Baxter 1999). Longfin smelt are thought to be restricted by high water temperatures, generally greater than 22 degrees Celsius (°C) (71 degrees Fahrenheit (°F)) (Baxter et. al. 2010), and will move down the estuary (seaward) and into deeper water during the summer months, when water temperatures in the Bay-Delta are higher. The known range of the longfin smelt extends from the San Francisco Bay-Delta in California northward to the Cook Inlet in Alaska.	The nearest CNDDDB occurrence, (EONDX #90742, from 2012) occurs approximately 12.3 miles southeast of the treatment areas in the Napa River. No records exist for this species within the Sonoma Creek Watershed.	Not Expected
AMPHIBIANS:				

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<i>Ambystoma californiense</i> pop. 3 California tiger salamander – Sonoma County DPS	FE ST WL	A large terrestrial salamander that inhabits seasonal/semi-permanent water sources (3-4 months in duration) and adjacent upland habitat with small fossorial mammal activity in lowland grasslands, oak savannah and mixed woodlands. Range includes the Central Valley and Central Coast ranges from Colusa County south to San Luis Obispo and Kern counties from sea level to 3,460 feet (1,054 meters) in elevation with two disjunct populations within Sonoma County and Santa Barbara County. Species have been documented traveling distances up to 1 mile (1.6 km) (Austin and Shaffer 1992). Designated critical habitat encompasses 199,109 acres in 20 counties and is grouped into 4 regions: Central Valley, Southern San Joaquin, East Bay and Central Coast (70 FR 49380). The East Bay Region includes Alameda County, south to Santa Benito and Santa Clara counties, and west to the eastern portions of San Joaquin and Merced counties (70 FR 49380). Primary constituent elements include: (1) standing bodies of fresh water that support inundation during winter rains and hold water for a minimum of 12 weeks in a year of average rainfall; (2) upland habitats adjacent and accessible to breeding ponds that contain small mammal burrows or other underground habitat; and (3) accessible upland dispersal habitat between occupied locations that allow for movement between such sites (70 FR 49380).	The nearest CNDDDB occurrence, (EONDX #91221, from 1856) occurs approximately 6.7 miles southwest of the treatment areas. The treatment areas contain potential breeding habitat in at least one pond located on the western portion of the property. However, no records for this species exist within the Sonoma Valley.	Not Expected
<i>Rana draytonii</i> California red-legged frog	FT SSC	A medium-sized frog that inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation (Jennings and Hayes 1994, Bulger et al. 2003, Stebbins 2003).	The nearest CNDDDB occurrence, (EONDX #98186, from 2013) occurs approximately 3.6 miles west of the treatment areas. The treatment areas contain at least one pond which represents potential breeding habitat in addition to other potential aquatic habitat for this species such as Stuart Creek and several ephemeral streams	Possible
REPTILES:				

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<i>Chelonia mydas</i> green sea turtle	FT	The largest of the hard-shelled sea turtles, the green sea turtle occurs in all of the world's oceans, primary in tropical and subtropical waters. On the Pacific coast, the species is primarily found from southern California to northern Mexico. Upon hatching onshore, green sea turtles move to the open ocean before returning to nearshore foraging grounds in shallow coastal habitats, where they mature to adulthood and spend the remainder of their lives (NOAA 2022).	The nearest CNDDDB records occur south of Santa Barbara. The treatment areas lack shallow coastal habitat required by this species and is outside the known range of this species.	None
<i>Emys marmorata</i> Northwestern pond turtle	FC SSC	Inhabits permanent or nearly permanent bodies of water and low gradient slow-moving streams below 6,000 feet elevation.	The nearest CNDDDB occurrence, (EONDX #97903, from 2015) occurs approximately 4.2 miles southwest of the treatment areas. The pond located on the southwestern edge of the treatment areas and the perennial streams form potential habitat for this species.	Possible
BIRDS:				
<i>Agelaius tricolor</i> tricolored blackbird (nesting colony)	BCC SSC ST	Highly colonial species; nest in emergent vegetation within aquatic and riparian habitats. Nesting season is from March to late-August.	The nearest CNDDDB occurrence, (EONDX #30789, from 1976) occurs approximately 8.6 miles west of the treatment areas. Suitable habitat for the species may be present within aquatic habitat in the treatment areas.	Possible
<i>Aquila chrysaetos</i> golden eagle	BCC FP	A large diurnal raptor that nests on cliffs and in large trees in open areas. Forages in open terrain including grasslands, deserts, savannahs and early successional stages of forest and shrub habitats (Kochert et al. 2002). A year-round resident in the greater Bay Area. Breeding activities begin in December in California.	Suitable nesting habitat is present in the treatment areas within tall trees. The nearest CNDDDB occurrence, (EONDX #97886, from 2015) occurs approximately 3.9 miles southwest of the treatment areas.	Possible

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<i>Buteo swainsoni</i> Swainson's hawk	BCC ST	Breeds in stands of tall trees in open areas. Requires adjacent suitable foraging habitats such as grasslands or alfalfa fields supporting rodents; breeding occurs from March to August.	The nearest CNDDDB occurrence, (EONDX #91839, from 2012) occurs approximately 6.5 miles northeast of the treatment areas near Yountville from 2012. The second closest record is 8.5 miles southeast from 2013 south of the City of Sonoma. There is also a cluster of nests in southern Napa to the southeast about 15 miles away. The treatment areas contain grassland and nearby agricultural fields potentially suitable as foraging habitat for this species. Large trees in the treatment areas form potentially suitable nesting substrate as well.	Possible
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT SE	The western yellow-billed cuckoo inhabits low elevation, well-developed riparian habitat typically consisting of cottonwoods (<i>Populus</i> spp.) and willows (<i>Salix</i> spp.) with a dense understory. Cottonwood trees often provide important foraging habitat where they feed largely in insects. Home range size within nesting habitat along the Sacramento River have been reported to occupy 25-99 acres per breeding pair (Gaines 1974, Halterman 1991). Breeding season begins in late May in the north and are typically single-brooded. Yellow-billed cuckoos overwinter from Venezuela to northern Argentina.	The nearest CNDDDB occurrence, (EONDX #30672, from 1975) occurs approximately 5.5 miles west of the treatment areas. The treatment areas lack low elevation riparian habitat with a dense understory used by this species as nesting habitat. The most recent nesting observation for this species in Sonoma County dates back over 40 years.	None
<i>Elanus leucurus</i> white-tailed kite	FP	Inhabits grasslands, agriculture fields, oak woodlands, savannah and riparian habitats in rural and urban areas. Typically nests in trees surrounded by open foraging habitat.	The nearest CNDDDB occurrence, (EONDX #6467, from 1988) occurs approximately 7.2 miles northeast of the treatment areas. The treatment areas contain grassland and riparian foraging habitat for this species as well as large trees for potential nesting habitat. eBird (2023) contains numerous checklists including this species from Sonoma County including some observations at the treatment areas. One individual of this species was observed foraging during a reconnaissance survey conducted March 22, 2023.	Possible

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<i>Haliaeetus leucocephalus</i> bald eagle	BCC FP SE	Winters at lakes, reservoirs, river systems and some rangelands and coastal wetlands. Nests in large conifers near aquatic sources. Breeding begins in May; single-brooded (Baicich and Harrison 2005).	The nearest CNDDDB occurrence, (EONDX #7721, from 1988) occurs approximately 9.1 miles northeast of the treatment areas. The treatment areas lack sufficient aquatic foraging habitat to support nesting by this species.	None
<i>Laterallus jamaicensis coturniculus</i> California black rail	BCC FP ST	Smallest of the rails; inhabits tidal marshes, freshwater wetlands and marshes. Wintering habitat similar to breeding habitat. A year-round resident of the San Francisco Bay Area. Breeding begins in March; sometimes double-brooded (Baicich and Harrison 2005).	The nearest CNDDDB occurrence, (EONDX #77085, from 2015) occurs approximately 10.9 miles southwest of the treatment areas. The treatment areas lack tidal marsh, freshwater wetland, or freshwater marsh potentially used by this species for nesting.	None
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE FP SE	Restricted to the San Francisco Bay Area. Inhabits coastal wetlands dominated by pickleweed (<i>Salicornia</i> spp.) and cordgrass (<i>Spartina</i> spp.). Wintering habitat similar to breeding habitat. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	The nearest CNDDDB occurrence, (EONDX #98760, from 2014) occurs approximately 10.7 miles southwest of the treatment areas. The treatment areas lack coastal wetlands used by this species for nesting.	None
<i>Riparia riparia</i> bank swallow	ST	Nests in colonies in vertical banks with friable soils. Breeds from April to August. Most of California's nesting colonies occur along the upper Sacramento River. Breeding begins in April; double-brooded (Baicich and Harrison 2005).	The nearest CNDDDB occurrence, (EONDX #85482, from 1893) occurs approximately 2.4 miles south of the treatment areas. The treatment areas lack vertical banks used by this species for nesting.	None
<i>Strix occidentalis caurina</i> northern spotted owl	FT ST	Inhabits coniferous forests from western British Columbia to the San Francisco Bay. In California owls inhabit Douglas fir mixed conifer and coastal redwood forests. Requires moderate to high canopy cover with sufficient large dead or dying trees/snags and abundant arboreal or semiarboreal prey base. Breeding begins in April; single-brooded.	The nearest OBSID occurrence, (OBSID #97911 from 2000) occurs within the treatment areas. The treatment areas contain Douglas fir mixed conifer and coastal redwood forests potentially utilized by this species for foraging and nesting.	Possible
MAMMALS:				
<i>Reithrodontomys raviventris</i> salt marsh harvest mouse	FE FP SE	A small endemic, pickleweed (<i>Salicornia</i> spp.) obligate species of tidal marshes of the San Francisco Bay Area. Requires adjacent upland tidal zones for escape cover during floods. Two recognized subspecies, <i>R. r. halicoetes</i> that inhabits San Pablo and Suisun bays and <i>R. r. raviventris</i> that inhabits the South San Francisco Bay including Corte Madera and Richmond marshes (Shellhammer 2000).	The nearest CNDDDB occurrence, (EONDX #23866, from 1990) occurs approximately 10.9 miles southwest of the treatment areas. The treatment areas are outside the known range of this species and lacks tidal salt marsh used by this species for its life history requirements.	None
SENSITIVE AND LOCALLY RARE SPECIES				
FISH:				

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<i>Pogonichthys macrolepidotus</i> Sacramento splittail	SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, lower Napa River, lower Petaluma River, the San Francisco Estuary and associated marshes (Moyle 2002). Inhabits slow-moving river sections, dead-end sloughs; requires flooded vegetation for spawning and foraging for young. Spawning occurs from late February to early July; peaking March through April (Moyle 2002). Yolo and Sutter bypasses are important spawning grounds for this species (Moyle 2002).	The nearest CNDDDB occurrence, (EONDX #42851, from 1999) occurs approximately 11.1 miles southwest of the treatment areas. The treatment areas are outside the known range of this species and lacks slow-moving riverine habitat used by this species.	None
<u>AMPHIBIANS:</u>				
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Large, stocky terrestrial salamander. Occur primarily in humid coastal forests from Santa Cruz County to southern Mendocino and Lake Counties. Found near streams in damp conditions; aquatic adults and larvae inhabit cool, rocky streams and occasionally lakes and ponds (Zeiner et al. 1990).	The nearest CNDDDB occurrence, (EONDX #98399, from 2014) occurs approximately 0.17 miles west of the treatment areas along Stuart Creek. Stuart Creek is a perennial stream with a damp riparian zone with rocky sections which could provide potential habitat for this species.	Possible
<i>Rana boylei</i> pop 1 foothill yellow-legged frog - north coast DPS	SSC	A medium-sized frog that inhabits rocky, cascading streams in woodland, chaparral and coniferous forests from the Oregon border to San Luis Obispo County and the western foothills of the Sierra Nevada below 6000 feet.	The nearest CNDDDB occurrence, (EONDX #98121, from 2014) occurs approximately 0.19 miles west of the treatment along Stuart Creek. Stuart Creek contains rocky, cascading sections within the treatment areas and provides potential habitat for this species.	Possible
<i>Taricha rivularis</i> red-bellied newt	SSC	Stream or river-dwellings newt of coastal woodlands and redwood forest. Known from Sonoma County north to Humboldt County and inland to Lake County with a disjunct population occurring in the Stevens Creek watershed of Santa Clara County.	The nearest CNDDDB occurrence, (EONDX #104544, from 1977) occurs within the treatment areas. The treatment areas contain habitat elements potentially suitable for this species including redwood forest, mixed evergreen forest and Stuart Creek, a perennial stream. Multiple individuals of this species were observed during a reconnaissance survey conducted March 22, 2023.	Present
<u>BIRDS:</u>				

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<i>Ammodramus savannarum</i> grasshopper sparrow	SSC	An inconspicuous sparrow that inhabits moderately open grasslands and prairies with patchy bare ground, cultivated fields and forest clearings with short to moderately tall grasses and scattered shrubs (Vickery 2020, Baicich and Harrison 2005, Shuford and Gardali 2008). Areas with native bunchgrasses are important features in southern California (Shuford and Gardali 2008). Breeds from min-March through August; double or treble-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	The nearest CNDDDB occurrence, (EONDX #97889, from 2011) occurs approximately 4.2 miles southwest of the treatment areas. Grassland located on the western portion of the treatment areas forms potential breeding habitat for this species.	Possible
<i>Asio otus</i> long-eared owl	BCC SSC	Most slender and nocturnal of the large owls. Occurs in a wide range of habitats including desert oases, riparian thickets, and dense coniferous woodlands. Roosts near tree trunks in dense cover during the day; hunts in open fields and marshes by night, primarily for small mammals. Nests in cavities and nests abandoned by other animals (Alsop 2001).	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present within forested and riparian habitat in the treatment areas.	Possible
<i>Athene cunicularia</i> burrowing owl	BCC SSC	Valley bottoms and foothills with low vegetation and fossorial mammal activity. Listing includes wintering observations with/without a burrow in San Francisco, Ventura, Sonoma, Marin, Napa and Santa Cruz counties. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	The nearest CNDDDB occurrence, (EONDX #100627, from 2015) occurs approximately 4.0 miles southwest of the treatment areas. Grassland located on the western portion of the treatment areas forms potential wintering habitat, though they have not been documented breeding in this area in several decades. Furthermore, the Sonoma Valley lacks both CNDDDB records and eBird (eBird 2024) observations for this species.	Not Expected
<i>Aythya americana</i> redhead	SSC	Inhabits freshwater lakes, ponds, and marshes with abundant submerged vegetation, particularly during the winter months. Commonly found in coastal regions, including the San Francisco Bay, Salton Sea, and southern coastal wetlands, as well as in interior valleys. While primarily a winter visitor in the state, some populations also nest in northeastern California's marshy wetlands. Prefers areas with a mix of open water and dense emergent vegetation, which provide shelter and feeding grounds (Shuford and Gardali 2008).	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present within and adjacent to aquatic habitat in the treatment areas.	Possible

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<i>Circus hudsonius</i> northern harrier	BCC SSC	Inhabits both freshwater and saltwater marshes and adjacent upland grasslands. Nests on the ground in tall grasses in grasslands and meadows.	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present adjacent to aquatic habitat in the treatment areas.	Possible
<i>Contopus cooperi</i> olive-sided flycatcher	BCC SSC	Inhabits open canopy late-successional coniferous forests and eucalyptus groves in foothill canyons. Prefers edge habitats and openings often associated with clear-cuts, burned areas, slashings, and fragmented forests. Nests in willows, alders, oaks and eucalyptus trees within lowlands. California distribution ranges from the Oregon border south along the Modoc Plateau, Sierra Nevada, coastal mountain ranges west of the Central Valley to Santa Barbara County, and in the higher elevations of the Transverse and Peninsular ranges (Shuford and Gardali 2008). Breeds from May to late August; single-brooded (Baicich & Harrison 2005, Shuford and Gardali 2008).	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present within forested habitat in the treatment areas.	Possible
<i>Coturnicops noveboracensis</i> yellow rail	BCC SSC	Highly secretive, breeds in northeastern California in wet meadows and sedge marshes. Winters in tidal marshes in the greater San Francisco Bay Area.	The nearest CNDDDB occurrence, (EONDX #106955, from 1898) occurs approximately 4.6 miles southeast of the treatment areas. The southwestern portion of the treatment areas includes some wet meadow habitat potentially suitable for this species.	Possible
<i>Cypseloides niger</i> black swift	BCC SSC	Uncommon summer resident of North America. Requires shady, sheltered vertical cliffs for nesting; often nests on rock behind waterfalls. Nesting is from mid-June to mid-September.	The nearest CNDDDB occurrence, (EONDX #59707, from 2003) occurs approximately 0.94 miles east of the treatment areas. The northern portion of the treatment areas includes vertical cliffs and waterfalls along Stuart Creek potentially suitable as nesting habitat for this species.	Possible
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	BCC SSC	Year-round resident of the San Francisco Bay Area. Inhabits dense vegetation in wetlands, marshes, estuaries, prairies and riparian areas of San Francisco and San Pablo bays, and along the coastal areas of Marin, San Francisco, and San Mateo counties (Shuford and Gardali 2008). Breeds from mid-March to late July; double-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	The nearest CNDDDB occurrence, (EONDX #24806, from 1985) occurs approximately 10.8 miles southwest of the treatment areas. The treatment areas lack dense salt marsh vegetation normally used by this species for nesting.	None

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<i>Lanius ludovicianus</i> loggerhead shrike	BCC SSC	Inhabits shrublands and open woodlands associated with grasslands with areas bare ground and impaling sites such as thorny vegetation, multi-stemmed plants or barbed wire.	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present within and shrub and grassland habitat in the treatment areas.	Possible
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	BCC SSC	A medium-sized sparrow that inhabits marshes containing cattails, tules, and other sedges, and <i>Salicornia</i> ; also known to frequent tangles bordering sloughs. One of four subspecies in the San Francisco Bay Area. Endemic to the north San Francisco Bay and San Pablo Bay. Breeding begins in April; often triple-brooded. Breeding begins in April; often treble-brooded (Baicich and Harrison 2005).	The nearest CNDDDB occurrence, (EONDX #61447, from 1901) occurs approximately 7.9 miles southeast of the treatment areas. The treatment areas occur outside the known range of this species and lacks marsh habitat used by this species for nesting.	None
<i>Progne subis</i> purple martin	SSC	The largest swallow species occurring in North America, the purple martin ranges along the west coast from Big Sur along the Central California Coast north to British Columbia, Canada (Brown 1997). Inhabits montane forests and lowland coastal and inland foothills. Martins exhibit high site fidelity and are secondary-cavity nesters, utilizing woodpecker cavities in trees and dead snags, but also nest in Saguaro cacti, cliffs and man-made structures such as bridges, power poles, street lamps, and bird boxes (Brown 1997). Breeding occurs from April through August and may be double- or triple-brooded (Brown 1997, Baicich and Harrison 2005). Purple martins feed exclusively on flying insects caught on the wing typically 50-150 m (~160-500 ft) above the ground (Brown 1997).	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present within forested habitat in the treatment areas.	Possible

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<i>Setophaga petechia</i> yellow warbler	SSC	Yellow warblers of the “yellow” group of subspecies breed from the northern limits of the boreal forest in Alaska and Canada south along the Pacific Coast to northern Baja California; the central Sierra Nevada, northern Nevada the southern Rocky Mountain region; the southern Great Plains, central Arkansas, northern Alabama and Georgia; and along the eastern seaboard to Virginia. There is also a disjunct population in the Sierra Madre Occidental of Mexico (Lowther et. al. 1999). Nests in dense, shrubby thickets dominated by willows along water courses and wet meadows. They build nests in a variety of riparian trees, most commonly willows (<i>Salix spp.</i>) and cottonwoods (<i>Populus spp.</i>). Occasionally yellow warblers breed in mixed-conifer forests with shrubby understories (Shuford and Gardali 2008). Breeds from April to late July and is sometimes double-brooded (Baicich & Harrison 2005, Shuford and Gardali 2008).	While there are no CNDDDB occurrences of the species within the assessment area, suitable habitat for the species may be present within forested and riparian habitat in the treatment areas.	Possible
MAMMALS:				
<i>Antrozous pallidus</i> pallid bat	SSC WBWG-H	Inhabits rocky terrain in open areas in lowlands, foothills and mountainous areas near water throughout California below 2,000 meters. Roost in caves, rock crevices, mines, hollow trees, buildings and bridges in arid regions in low numbers (<200). Active from March-November; migrates in some areas, but may hibernate locally.	The nearest CNDDDB occurrence, (EONDX #66688, from 1935) occurs approximately 5.8 miles southeast of the treatment areas. The forested portions of the treatment areas and caves near the waterfall along Stuart Creek provide potential roosting habitat. The grassland habitats located within the treatment areas also provide potential foraging habitat for this species.	Possible
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	SSC WBWG-H	An obligate cave rooster and moth specialist. Inhabits caves and mines, but may also use bridges, buildings, rock crevices and tree hollows in coastal lowlands, cultivated valleys and nearby hills characterized by mixed vegetation throughout California below 3,300 meters. Exhibits high site fidelity and is highly sensitive to disturbance. Forages along edge habitats near water; may travel long distances during foraging bouts.	The nearest CNDDDB occurrence, (EONDX #93632, from 1938) occurs approximately 10.5 miles southwest of the treatment areas. The riparian zone of Stuart Creek forms potential foraging habitat for this species. The forested portions of the treatment areas and caves near the waterfall along Stuart Creek provide potential roosting habitat. Although this species favors caves and mines for roosting, it may roost in basal hollows of very large trees, which may be present within the treatment areas as well.	Possible

SPECIES NAME COMMON NAME	LISTING STATUS ¹	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Lasiurus frantzii</i> western red bat	SSC WBWG-H	Primarily associated with intact riparian habitat. Roosts individually in foliage within trees along riparian areas, orchards and suburban areas. Favors cottonwoods, willows, sycamores, and walnut trees (Bolster 2005).	While there are no CNDDDB occurrences of the species within the assessment area, the species may occur throughout the treatment areas.	Possible
<i>Sorex ornatus sinuosus</i> Suisun shrew	SSC	Salt marsh shrews are associated with the middle salt marsh zone, near the mean high water elevation around San Francisco, San Pablo, and Suisun bays. Habitat in brackish marshes may occasionally be used by salt marsh shrews. The physical features of the habitat seem to be more important than the specific plant composition. The upper half of the middle marsh zone is typically inundated only by higher high tides, and contains abundant vegetation cover, surface moisture, and organic detritus, with abundant amphipods and other crustaceans. This appears to be optimum and extremely important habitat for salt marsh shrews (Johnston and Rudd 1957, Owen and Hoffmann 1983). Thick stands of vegetation and adjacent marsh areas are thought to provide refuge from extreme high tides and Hays and Lidicker (2000) documented Suisun shrews along the ecotone between high marsh and ungrazed annual grassland. Salt marsh wandering shrews, however, have not been detected in grassy upland areas (Newman 1970). The current distribution of the Suisun shrew appears to be limited to the isolated tidal salt and brackish marshes on the perimeters of San Pablo Bay and Suisun Marsh. Its range is bounded on the west by Tubbs Island in Sonoma County and on the east by Collinsville in Solano County.	The nearest CNDDDB occurrence, (EONDX #90735, from 2012) occurs approximately 14.5 miles southeast of the treatment areas. The treatment occurs outside the known range of this species. The treatment areas lack salt marsh habitat normally used by this species.	None

SPECIES NAME COMMON NAME	LISTING STATUS ¹	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Taxidea taxus</i> American badger	SSC	Inhabits open areas with friable soils within woodland, grassland, savannah and desert habitats. A fossorial mammal that preys predominately on ground squirrels (<i>Ammospermophilus</i> and <i>Spermophilus</i> spp.) and pocket gophers (<i>Thomomys</i> spp.).	The nearest CNDDDB occurrence, (EONDX #46525, from 1951) occurs approximately 11.4 miles southeast of the treatment areas. The Sonoma Valley lacks CNDDDB occurrence data for this species and iNaturalist (iNaturalist 2024) also lacks observations from this area for American badger. The treatment areas contain limited grassland habitat potentially suitable for this species. The soil is rocky and appears mostly non-friable whereas this species uses friable soils for hunting and excavating dens. Despite the sub-optimal habitat, this species wanders widely and may possibly enter the treatment areas.	Possible

Federal Listings:

FE: Federally Endangered
 FT: Federally Threatened
 FC: Federal Candidate for Listing
 BCC: Federal Bird of Conservation Concern

ST: State Threatened

SC: State Candidate for Listing
 SSC: State Species of Special Concern
 FP: State Fully Protected Species
 WL: CDFW Watch List Species

State Listings:

WBWG-H: Western Bat Work Group High Priority Species; the species is considered imperiled or at high risk of imperilment.

Other Designations: