Colibri
Ecological Consulting

Biological Resource Evaluation

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Arroyo Pasajero Infiltration Basin Project
Fresno County, CA

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Executive Summary

Westlands Water District proposes to divert up to 15,000 acre-feet of flows annually from Arroyo Pasajero (an intermittent stream also known as Los Gatos Creek) during high flow events and store the water in the aquifer system via one of two proposed basins approximately 1.1 miles northwest of Huron in Fresno County, California (the Project). The Project will involve constructing a series of pools, retention berms, and diversion instruments including lift pumps and check dams. The existing stream channel may be widened or otherwise modified. The purpose of this Project is to enhance natural groundwater recharge, promote groundwater sustainability, and provide flood protection for landowners adjacent to the current terminus of Arroyo Pasajero.

To evaluate whether the Project may affect biological resources under California Environmental Quality Act (CEQA) purview, we (1) obtained lists of special-status species from the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the California Native Plant Society; (2) reviewed other relevant background information such as satellite imagery and topographic maps; and (3) conducted a field reconnaissance survey at the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the Project site, (3) the potential impacts of the proposed Project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to less-than-significant levels under CEQA.

We concluded the Project will affect one regulated habitat (Arroyo Pasajero) and could affect three special-status species, the state-listed as threatened Swainson's hawk (*Buteo swainsoni*) and two California Species of Special Concern—loggerhead shrike (*Lanius ludoivicionus*) and western mastiff bat (*Eumops perotis californicus*), as well as nesting migratory birds. However, effects can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FP	State Fully Protected
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Science
SE	State listed as Endangered
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

Westlands Water District proposes to divert up to 15,000 acre-feet of flows annually from Arroyo Pasajero (an intermittent stream also known as Los Gatos Creek) during high flow events and store the water in the aquifer system via one of two proposed basins (Basin A or Basin B), approximately 1.1 miles northwest of Huron in Fresno County, California (the Project). The alternative Basin B could be selected in place of Basin A if percolation rates and site conditions suggest more favorable conditions for infiltration. The purpose of this Project is to enhance natural groundwater recharge, promote groundwater sustainability, and provide flood protection for landowners adjacent to the current terminus of Arroyo Pasajero.

The purpose of this biological resource evaluation is to assess whether the Project will affect protected biological resources pursuant to California Environmental Quality Act (CEQA) guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA) as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of California Fish and Game Code (CFGC). This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), or California Department of Fish and Wildlife (CDFW).

1.2 Project Description

This Project will involve constructing an infiltration basin adjacent to Arroyo Pasajero on either a 190-acre site (Basin A) or a 210-acre site (Basin B). The basin may be subdivided into a series of pools connected by concrete overflow spillways. Flows will be diverted from the stream channel using a series of lift pumps installed on opposite banks. The existing stream channel may be widened or otherwise modified, and check dams may be constructed to reduce flow velocity and minimize sediment before flows are diverted.

1.3 Project Location

The proposed infiltration basin (Basin A) will be constructed on a 190-acre site at the northwest corner of Palmer Avenue and South Trinity Avenue approximately 1.1 miles northwest of the City of Huron, Fresno County, California. An alternative 210-acre infiltration basin (Basin B) would be constructed directly south of Basin A, at the southwest corner of Palmer Avenue and South Trinity Avenue (Figures 1 and 2).

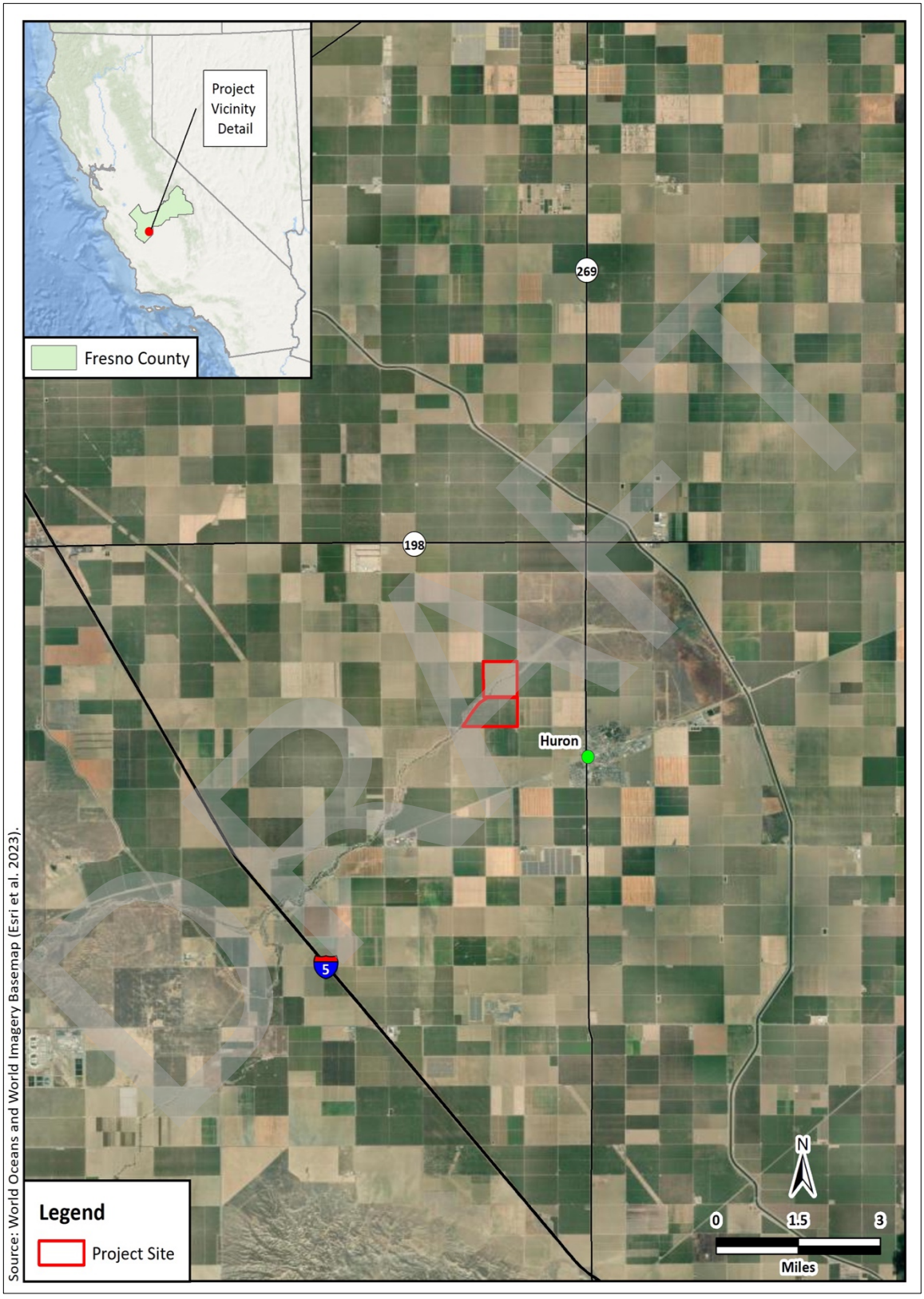

Figure 1. Project site vicinity map.

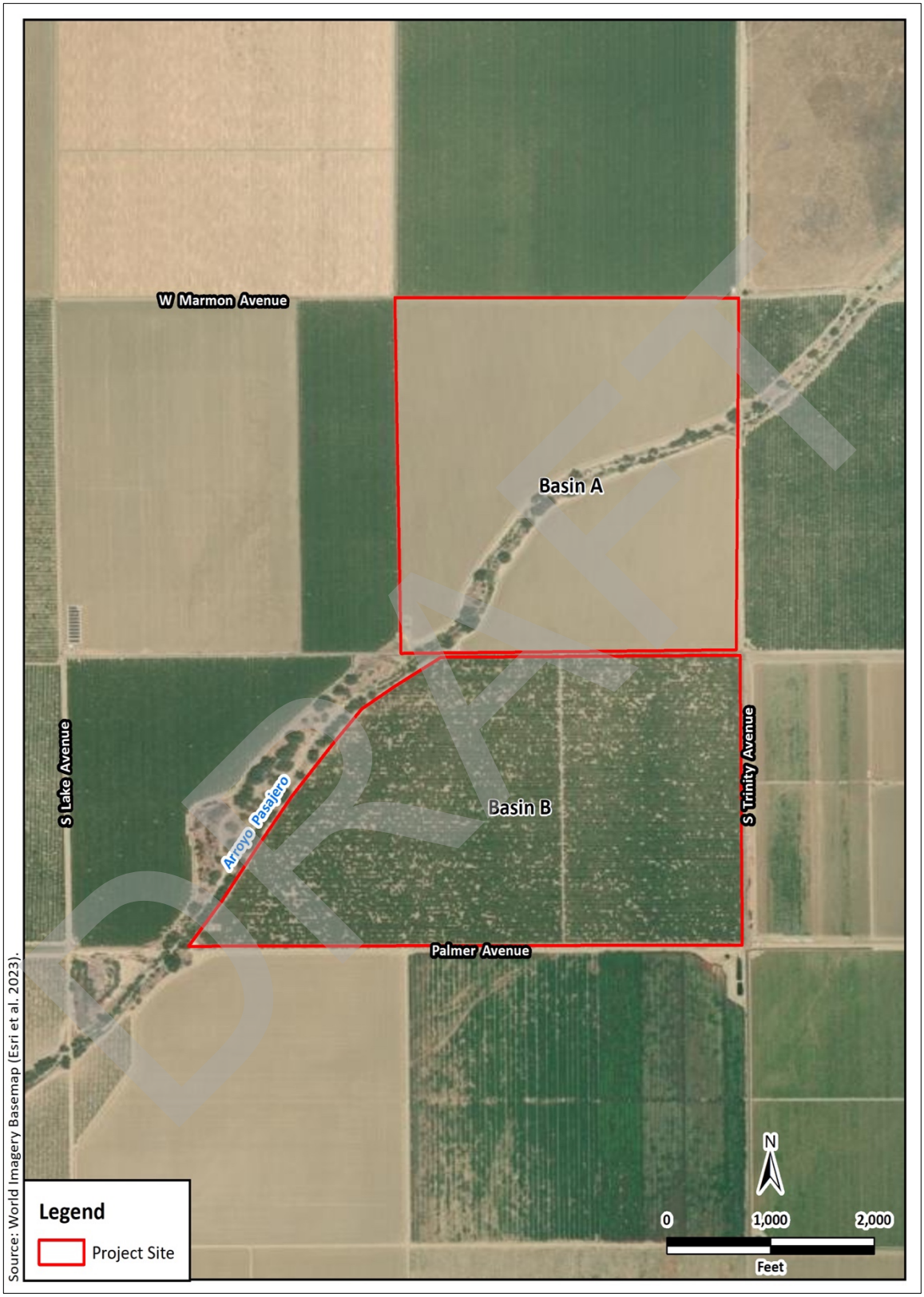

Figure 2. Project site map.

1.4 Regulatory Framework

The relevant regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

1.4.1 State Requirements

California Department of Fish and Wildlife Jurisdiction. The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed may require that the project applicant enter into a Lake and Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code [CFGC] Section 1602.

California Endangered Species Act. The CESA of 1970 (CFGC Section 2050 et seq. and California Code of Regulations (CCR) Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not adversely affect state listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state listed species under Sections 2080.1 and 2081(b) of the CFGC in those cases where it is demonstrated the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (CFGC Section 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2023). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the CFGC dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the United States Fish and Wildlife Service (USFWS) or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 (CFGC Sections 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting birds. CFGC Sections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. CFGC Section 3511 lists birds that are “Fully Protected” as those that may not be taken or possessed except under specific permit.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (California Water Code *Section* 13000 et. sec.) was established in 1969 and entrusts the SWRCB and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California's diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state's surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply with California water quality standards. The Porter-Cologne Water Quality Control Act addresses all "waters of the State," which are more broadly defined than waters of the Unites States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

1.4.2 Federal Requirements

Federal Endangered Species Act. The USFWS and the National Oceanographic and Atmospheric Administration's National Marine Fisheries Service enforce the provisions stipulated in the FESA of 1973 (FESA, 16 United States Code [USC] Section 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC Section 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act. The federal MBTA (16 USC Section 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC Section 703 and Section 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, the territorial seas, all interstate waters, all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States that are relatively permanent, standing, or continuously flowing bodies of water, and relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to waters of the United States (33 CFR part 328.3). Waters of the United States do not include prior converted cropland, waste treatment systems, ditches, artificially irrigated areas, artificial lakes or ponds, artificial reflecting pools or swimming pools, waterfilled depressions, and swales and erosional features. Under the 2006 Supreme Court ruling *Rapanos v. United States*, waters of the United States include non-navigable tributaries of traditional navigable waters that are relatively permanent. The 2023 Supreme Court ruling *Sackett v. Environmental Protection Agency* removed the significant nexus standard for tributaries and adjacent waters of the United States and requires tributaries and adjacent waters to have a continuous surface connection to a water of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual and related Regional Supplement* (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply

with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency, together with the Regional Water Quality Control Boards, charged with implementing water quality certification in California.

2.0 Methods

2.1 Desktop Review

As a framework for the evaluation and reconnaissance survey, we obtained a USFWS species list for the Project (USFWS 2023a, Appendix A). In addition, we searched the California Natural Diversity Data Base (CNDDB, CDFW 2023, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2023, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using CNDDB and CNPS database searches confined to the Guijarral Hills 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Coalinga, Domengine Ranch, Harris Ranch, Calflax, Huron, La Cima, Avenal, Kreyenhagen Hills). A local list of special-status species was compiled using CNDDB records from within 5 miles of the Project site. Species that lacked a CEQA-recognized special-status designation by state or federal regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed satellite imagery from Google Earth (Google 2023) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2023), the National Wetlands Inventory (USFWS 2023b), and relevant literature.

2.2 Reconnaissance Survey

Colibri Principal Scientist Jeff Davis conducted a field reconnaissance survey of the Project site on 20 September 2023. The Project site and a 50-foot buffer surrounding the Project site (Figure 3) were walked and thoroughly inspected to evaluate and document the potential for the area to support state or federally protected resources. All plants except those under cultivation or planted for landscaping and all vertebrate wildlife species observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters as defined by the USACE, CDFW (https://www.wildlife.ca.gov/conservation/lsa), and under the Porter-Cologne Water Quality Control Act. An additional buffer of 0.5 miles around the Project site was inspected for potential nesting habitat for special-status raptors. The 0.5-mile buffer was surveyed by driving public roads and identifying the presence of large trees or other potentially suitable substrates for nesting raptors as well as open areas that could provide foraging habitat.

2.3 Significance Criteria

CEQA defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment" (California Public Resource Code § 21068). Under CEQA Guidelines Section 15065, a Project's effects on biological resources are deemed significant where the Project would do the following:

a) Substantially reduce the habitat of a fish or wildlife species,
b) Cause a fish or wildlife population to drop below self-sustaining levels,
c) Threaten to eliminate a plant or animal community, or
d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do any of the following:

e) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

f) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

g) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

h) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

i) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

j) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.

3.0 Results

3.1 Desktop Review

The USFWS species list for the Project included 11 species listed as threatened or endangered under the FESA (USFWS 2023a, Table 1, Appendix A). None of those species could occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1). As identified in the species list, the Project site does not occur in USFWS-designated or proposed critical habitat for any species (USFWS 2023a, Appendix A).

Searching the CNDDB for records of special-status species from the Guijarral Hills 7.5-minute USGS topographic quadrangle and the eight surrounding quadrangles produced 214 records of 40 species (Table 1, Appendix B). Of those 40 species, eight were not considered further because they are not CEQA-recognized as special-status species by state or federal regulatory agencies or public interest groups or are considered extirpated in California (Appendix B). Of the remaining 32 species, 11 are known from within 5 miles of the Project site (Table 1, Figure 4). Of those species, two could occur on or near the Project site (Table 1). They include the state listed as threatened Swainson's hawk (*Buteo swainsoni*) and western mastiff bat (*Eumops perotis californicus*), a California Species of Special Concern. In addition, loggerhead shrike (*Lanius ludovicianus*), another California Species of Special Concern, could occur on or near the Project site based on the presence of habitat.

Searching the CNPS Inventory of Rare and Endangered Plants of California yielded 13 species (CNPS 2022, Appendix C) that have a California Rare Plant Rank of 1 or 2 (Table 1). None of those species are expected to occur on or near the Project site due to the lack of habitat (Table 1).

The Project site is underlain by Excelsior sandy substratum-westhaven association, flooded, 0 to 2 percent slopes and Excelsior sandy loam, 0 to 2 percent slopes (NRCS 2023). The Project site is at an elevation of 360—380 feet above mean sea level (Google 2023).

Table 1. Special-status species, their listing status, habitats, and potential to occur on or near the Project site.

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State Listed Endangered or Threatened Species			
California jewelflower[3] (*Caulanthus californicus*)	FE, SE, 1B.1	Sandy soils in shadscale scrub, valley and foothill grassland, and pinyon-juniper woodland below 3280 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	FE, 1B.2	Dry, eroded hillsides and alkali flats in shadscale scrub and valley grassland at 330–3280 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development.
San Joaquin woollythreads[3] (*Monolopia congdonii*)	FE, 1B.2	Sandy soils in shadscale scrub and valley grassland at 295– 2300 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Crotch bumble bee[3] (*Bombus crotchii*)	SCE	Grassland and scrub with underground refugia such as rodent burrows for nesting.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Monarch California overwintering population (*Danaus plexippus*)	FC	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is not within 1.5 miles of the ocean.

Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools; some artificial depressions, stock ponds, vernal swales, ephemeral drainages, and seasonal wetlands.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None.** Habitat lacking; the survey area consisted of agricultural development.
Foothill yellow-legged frog (*Rana boylii*)	FT, SE	Perennial rocky streams in a variety of land cover types.	**None.** Habitat lacking; the survey area lacked perennial streams.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, SE, FP	Upland scrub and sparsely vegetated grassland with small mammal burrows.	**None.** Habitat lacking; the survey area consisted of agricultural development.
Temblor legless lizard (*Anniella alexanderae*)	SCE, SSSC	Moist, warm, loose soil and leaf litter in chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the current known local range of this species.
California condor (*Gymnogyps californianus*)	FE, SE, FP	Shallow caves or cliffs or large tree cavities with minimal disturbance for nesting; vast expanses of open savannah, grasslands, and foothill chaparral in foothills or mountains for foraging.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the local range of this species.
Swainson's hawk[3] (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, alfalfa	**Present.** Juvenile observed at south edge of Basin B during the 20 September 2023

		fields, or grain fields for foraging.	reconnaissance survey; potential nest trees with nearby foraging habitat were present within the 0.5-mile survey area.
Tricolored blackbird (*Agelaius tricolor*)	ST	Vast, open areas with flooded, thorny, or spiny vegetation for nesting; grasslands, seasonal wetlands, weedy agricultural fields, cattle feedlots, or dairies for foraging.	**None.** Habitat lacking; no potential nesting or foraging habitats in the survey area.
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	FE	Near water sources under deep leaf litter, cattails, and fallen logs, sometimes in grassland and desert scrub near water.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the current known local range of this species.
Giant kangaroo rat (*Dipodomys ingens*)	FE	Arid grasslands and upland scrub, generally with few or no shrubs on flats or gentle slopes.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the local range of this species.
San Joaquin antelope squirrel[3] (*Ammospermophilus nelsoni*)	ST	Arid grasslands and upland scrub with sandy loam soils, widely spaced shrubs, and dry washes.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the current known local range of this species.
San Joaquin kit fox[3] (*Vulpes macrotis mutica*)	FE, ST	Grasslands and upland scrub and fallowed agricultural lands adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the Project site consisted of agricultural development and lacked adjacent natural lands.

Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE	Grasslands and upland scrub with sparse to moderate shrub cover and saline soils.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the range of this species.
State Species of Special Concern			
Western spadefoot[3] (*Spea hammondii*)	SSSC	Open areas with sandy or gravelly soils and rain pools for breeding.	**None.** Habitat lacking; no rain pools or other ephemeral water bodies were found in the survey area.
California glossy snake (*Arizona elegans occidentalis*)	SSSC	Open arid scrub, rocky washes, grasslands, and chaparral.	**None.** Habitat lacking; the survey area consisted of agricultural development.
San Joaquin coachwhip[3] (*Coluber flagellum ruddocki*)	SSSC	Grasslands and upland scrub with small mammal burrows for cover and reproduction.	**None.** Habitat lacking; the survey area consisted of agricultural development.
Burrowing owl[3] (*Athene cunicularia*)	SSSC	Grasslands and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground squirrel burrows.	**None.** Habitat lacking; the survey area consisted of agricultural development that lacked suitable burrows.
Le Conte's thrasher (*Toxostoma lecontei*)	SSSC	Low, sandy, open upland scrub with open flats, dunes, or small arroyos.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the range of this species.
Loggerhead shrike (*Lanius ludovicianus*)	SSSC	Open shrublands or woodlands for nesting and areas of short grasses and forbs or	**Low.** Arroyo Pasajero provides potential nesting habitat, and agricultural fields

		bare ground for foraging.	provides potential foraging habitat.
Long-eared owl (*Asio otus*)	SSSC	Woodlands for nesting with adjacent open grasslands, meadows, or shrublands for foraging.	**None.** Habitat lacking; the survey area consisted of agricultural development.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	SSSC	Marshes with tall emergent vegetation for nesting; marshes, grasslands, feed lots, and mountain meadows for foraging.	**None.** Habitat lacking; the survey area consisted of agricultural development.
American badger[3] (*Taxidea taxus*)	SSSC	Open, dry areas with friable soils and small mammal populations in grassland, conifer forest, and desert.	**None.** Habitat lacking; the survey area consisted of agricultural development.
Short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*)	SSSC	Grasslands and upland scrub with friable sandy, sometimes saline, soils.	**None.** Habitat lacking; the survey area consisted of agricultural development; the Project site is outside the current known local range of this species
Tulare grasshopper mouse (*Onychomys torridus tularensis*)	SSSC	Upland scrub and arid grasslands with scattered shrubs.	**None.** Habitat lacking; the survey area consisted of agricultural development.
Western mastiff bat[3] (*Eumops perotis californicus*)	SSSC	Cliff faces, high buildings, trees, and tunnels near open, arid areas.	**Low.** Large trees along Arroyo Pasajero may provide roosting habitat for this species.
California Rare Plants			
Alkali-sink goldfields (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; the Project site lacked vernal pools and saline flats and consisted of

			agricultural development.
Brittlescale (*Atriplex depressa*)	1B.2	Grasslands, vernal pools, and upland scrub with alkaline or clay soils below 1050 feet elevation.	**None.** Habitat lacking; the Project site lacked alkaline or clay soils and consisted of agricultural development.
Chaparral ragwort (*Senecio aphanactis*)	2B.2	Alkaline flats and dry, open, rocky areas in northern coastal scrub, coastal sage scrub, and foothill woodland below 1800 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Hall's tarplant (*Deinandra halliana*)	1B.1	Upland scrub, grasslands, and foothill woodland with clay soils.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Indian Valley bush-mallow (*Malacothamnus aboriginum*)	1B.2	Open, rocky slopes and burned areas in foothill woodland and chaparral at 490–2300 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development and is below the elevation range of this species.
Lemmon's jewelflower (*Caulanthus lemmonii*)	1B.2	Grasslands, chaparral, and upland scrub at 260–5185 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Pale-yellow layia (*Layia heterotricha*)	1B.1	Foothill and valley woodland, pinyon-juniper woodland, and wetland-riparian woodland with clay and sandy soils at 660–5900 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development; the Project site is below the elevation range of this species.

Panoche pepper-grass (*Lepidium jaredii* ssp. *album*)	1B.2	Grasslands with washes, steep slopes, and clay soils.	**None.** Habitat lacking; the Project site consisted of agricultural development.
Recurved larkspur (*Delphinium recurvatum*)	1B.2	Grasslands and upland scrub with poorly drained, fine, alkaline soils at 98–1969 feet elevation.	**None.** Habitat lacking; the Project site lacked alkaline soils and consisted of agricultural development.
Showy golden madia (*Madia radiata*)	1B.1	Grasslands with open slopes below 3940 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural development.

CDFW (2023), CNPS (2023), USFWS (2023a).

Status[1]	**Potential to Occur**[2]	
FC = Federal Candidate for listing	None:	Species or sign not observed; conditions unsuitable for occurrence.
FE = Federally listed as Endangered	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FT = Federally listed as Threatened	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
FP = State Fully Protected	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
SCE = State Candidate for listing as Endangered	Present:	Species or sign observed; conditions suitable for occurrence.
SE = State listed as Endangered		
ST = State listed as Threatened		
SSSC = State Species of Special Concern		

CNPS California Rare Plant Rank[1]**:**	**Threat Ranks**[1]**:**
1B – plants rare, threatened, or endangered in California and elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).
3 – plants about which more information is needed.	0.3 – not very threatened in California (<20% of occurrences).

CNPS California Rare Plant Rank[1]:	Threat Ranks[1]:
4 – plants have limited distribution in California.	

[3]Record from within 5 miles of the Project site.

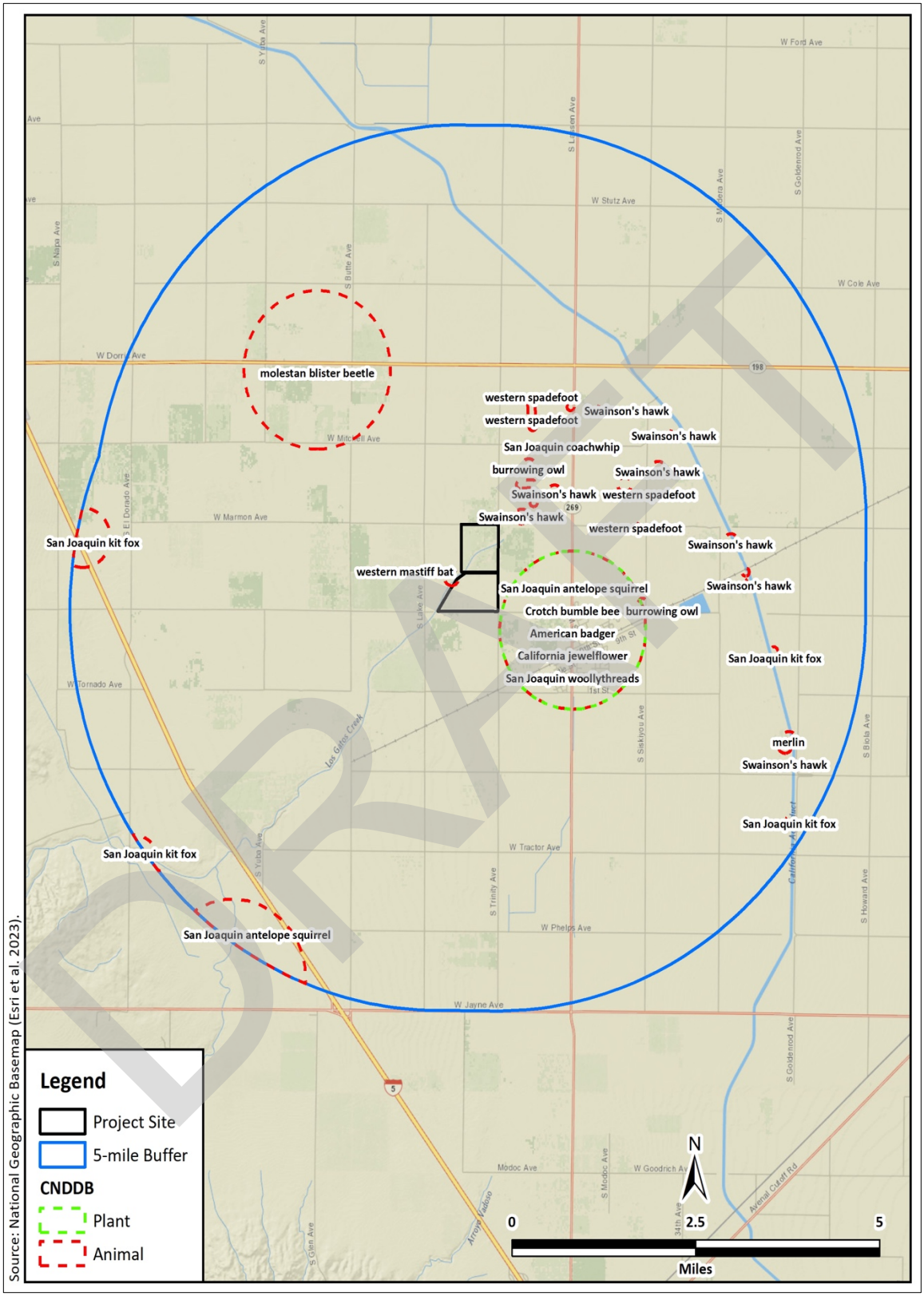

Figure 3. CNDDB occurrence map.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site consisted of a recently tilled agricultural field (Basin A, Figures 4–6) and an organic almond orchard (Basin B, Figures 7 and 8). Basin A was bordered by almond orchards on all sides and intersected by Arroyo Pasajero (Figure 2). Basin B was bordered by planted hedgerows to the north and south, Arroyo Pasajero to the west, and a recently tilled field to the east. The understory and margins of Basin B were sparsely vegetated with ruderal plants. Basin A lacked vegetation. The overstory of Arroyo Pasajero was dominated by athel (*Tamarix aphylla*), a nonnative invasive tree.

Figure 4. Photograph of the Project site, looking southwest, from the northeast corner of proposed Basin A, with Arroyo Pasajero in the background.

Figure 5. Photograph of the Project site, looking west, showing the intersection of Arroyo Pasajero and the eastern border of proposed Basin A.

Figure 6. Photograph of the Project site, looking west, showing the location of proposed Basin A with Arroyo Pasajero in the background.

Figure 7. Photograph of the Project site, looking west, showing a planted hedgerow (left) and an almond orchard (right) at the site for proposed Basin B.

Figure 8. Photograph of the Project site, looking northeast, showing Arroyo Pasjero (left) and an almond orchard (right) at the site for proposed Basin B.

3.2.2 Plant and Animal Species Observed

A total of 18 plant species (eight native and 10 nonnative), 29 bird species, and four mammal species were observed during the survey (Table 2).

Table 2. Plant and animal species observed during the reconnaissance survey.

Common Name	Scientific Name	Status
Plants		
Family Amaranthaceae		
Cattle spinach	*Atriplex polycarpa*	Native
Prostrate pigweed	*Amaranthus blitoides*	Native
Family Asteraceae		
Common sunflower	*Helianthus annuus*	Native
Flax-leaved horseweed	*Erigeron bonariensis*	Nonnative
Mulefat	*Baccharis salicifolia*	Native
Prickly lettuce	*Lactuca serriola*	Nonnative
Rough cockleburr	*Xanthium strumarium*	Native
Family Boraginaceae		
Salt heliotrope	*Heliotropium curassavicum*	Native
Family Brassiaceae		
Black mustard	*Brassica nigra*	Nonnative
Family Chenopodiaceae		
Lamb's quarters	*Chenopodium album*	Nonnative
Family Malvaceae		
Cheeseweed	*Malva parviflora*	Nonnative
Family Poaceae		
Barnyard grass	*Echinochloa crus-galli*	Nonnative
Giant reed	*Arundo donax*	Nonnative
Slim oat	*Avena barbata*	Nonnative
Family Salicaceae		
Fremont cottonwood	*Populus fremontii*	Native

Common Name	Scientific Name	Status
Family Solanaceae		
Jimsonweed	*Datura wrightii*	Native
Tree tobacco	*Nicotiana glauca*	Nonnative
Family Tamaricaceae		
Athel	*Tamarix aphylla*	Nonnative
Birds		
Family Accipitridae		
Red-tailed hawk	*Buteo jamaicensis*	MBTA, CFGC
Swainson's hawk	*Buteo swainsoni*	MBTA, CFGC, ST
Family Cardinalidae		
Western tanager	*Piranga ludoviciana*	MBTA, CFGC
Family Certhiidae		
Blue-gray gnatcatcher	*Polioptila caerulea*	MBTA, CFGC
Family Charadriidae		
Killdeer	*Charadrius vociferus*	MBTA, CFGC
Family Columbidae		
Eurasian collared-dove	*Streptopelia orientalis*	Nonnative
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Rock pigeon	*Columba livia*	Nonantive
Family Corvidae		
American crow	*Corvus brachyrhynchos*	MBTA, CFGC
Common raven	*Corvus corax*	MBTA, CFGC
Family Emberizidae		
White-crowned sparrow	*Zonotrichia leucophrys*	MBTA, CFGC
Family Falconidae		
American kestrel	*Falco sparverius*	MBTA, CFGC
Family Fringillidae		
House finch	*Haemorhous mexicanus*	MBTA, CFGC

Common Name	Scientific Name	Status
Family Icteridae		
Brewer's blackbird	*Euphagus cyanocephalus*	MBTA, CFGC
Red-winged blackbird	*Agelaius phoeniceus*	MBTA, CFGC
Family Mimidae		
Northern mockingbird	*Mimus polyglottos*	MBTA, CFGC
Family Odontophoridae		
California quail	*Callipepla californica*	MBTA, CFGC
Family Parulidae		
Orange-crowned warbler	*Leiothlypis celata*	MBTA, CFGC
Yellow warbler	*Setophaga petechia*	MBTA, CFGC
Yellow-rumped warbler	*Setophaga coronata*	MBTA, CFGC
Family Passerellidae		
Lark sparrow	*Chondestes grammacus*	MBTA, CFGC
Family Sturnidae		
European starling	*Sturnus vulgaris*	Nonnative
Family Trochilidae		
Anna's hummingbird	*Calypte anna*	MBTA, CFGC
Black-chinned hummingbird	*Archilochus alexandri*	MBTA, CFGC
Costa's hummingbird	*Calypte costae*	MBTA, CFGC
Rufous hummingbird	*Selasphorus rufus*	MBTA, CFGC
Family Troglodytidae		
Bewick's wren	*Thryomanes bewickii*	MBTA, CFGC
Family Tyrannidae		
Black phoebe	*Sayornis nigricans*	MBTA, CFGC
Family Tytonidae		
Barn owl	*Tyto alba*	MBTA, CFGC
Mammals		
Family Canidae		

Common Name	Scientific Name	Status
Coyote	*Canis latrans*	--
Family Geomyidae		
Botta's pocket gopher	*Thomomys bottae*	--
Family Leporidae		
Desert cottontail	*Sylvilagus audubonii*	--
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	--

MBTA = Protected under the MBTA (16 USC § 703 et seq.); CFGC = Protected under CFGC §§ 3503 and 3513; ST = State listed as Threatened (CFGC § 2050 et sec.)

3.2.3 Nesting Birds

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, California scrub-jay (*Aphelocoma californica*), house finch (*Haemorhous mexicanus*), and northern mockingbird (*Mimus polyglottos*). Large trees within 0.5 miles of the Project site may provide nesting substrates for raptors.

3.2.4 Regulated Habitats

The only potentially regulated habitat in the survey area was Arroyo Pasajero. It intersects proposed Basin A and borders the west side of proposed Basin B (Figure 2). It is classified by the National Wetlands Inventory as R4SBA, which means riverine, intermittent, streambed, temporarily flooded (USFWS 2023b). It lacked water during the 20 September 2023 reconnaissance survey (Figure 9). As a stream in California, it is likely regulated by the CDFW, and as a surface water in California it is likely regulated by the SWRCB. As it lacks relatively permanent flows and is not a tributary to a water of the United States (Google 2023), it is not likely under the regulatory jurisdiction of the USACE. No other aquatic resources were found in the survey area.

Figure 9. Photograph of Arroyo Pasajero, looking southwest from the eastern border of proposed Basin A.

3.3 Special-Status Species

The following special-status species could occur on or near the Project site based on the presence of habitat:

3.3.1 Swainson's Hawk

Swainson's hawk is a state listed as threatened raptor in the family Accipitridae. It is a migratory breeding resident of central California. It uses open areas including grassland, sparse shrubland, pasture, open woodland, and annual agricultural fields such as grain and alfalfa to forage on small mammals, birds, and reptiles. After breeding, it eats mainly insects, especially grasshoppers (Bechard et al. 2020). Swainson's hawks build small to medium-sized nests in medium to large trees near foraging habitat. The nesting season begins in March or April in Central California when this species returns to its breeding grounds from wintering areas in Mexico and Central and South America. Nest building

commences within one to two weeks of arrival to the breeding area and lasts about one week (Bechard et al. 2020). One to four eggs are laid and incubated for about 35 days. Young typically fledge in about 38–46 days and tend to leave the nest territory within 10 days of fledging (Bechard et al. 2020). Swainson's hawks depart for the non-breeding grounds between August and September.

There are nine *CNDDB* occurrence records of Swainson's hawk from within 5 miles of the Project site *(Figure 3). T*he closest *is* a 2008 *record from about* 0.25 miles northeast *of Basin A*. One juvenile Swainson's hawk was observed perched *i*n an almond tree during the 20 September 2023 reconnaissance survey on the southern edge of Basin B. Potential nest trees with nearby foraging habitat were within 0.5 miles of the Project site. Therefore, the species is present and could nest near the Project site.

3.3.2 Loggerhead Shrike

Loggerhead shrike is a California Species of Special Concern (breeding season only). It breeds in non-forested areas throughout most of California, beginning as early as January and extending into July (Humple 2008). Individuals from northern migratory populations join resident populations in winter, when some birds occupy areas where the species does not breed. It breeds and forages mainly in shrublands and open woodlands with ample grass cover and bare ground. It uses trees and tall shrubs for nesting and trees, tall shrubs, fences, and utility lines and poles as hunting perches. It preys on insects, spiders, and small vertebrates and sometimes impales them on thorny plants, the barbs on barbed-wire fences, and other sharp objects to manipulate them for immediate consumption or store them for later consumption (Yosef 2000).

There are no CNDDB occurrence records of loggerhead shrike from within 5 miles of the Project site. However, the species could use trees and tall shrubs along Arroyo Pasajero for nesting and the open areas of the Project site for foraging. Yet anthropogenic disturbance in the area associated with agricultural operations limits habitat quality. Therefore, the species has a low potential to occur on or near the Project site.

3.3.3 Western Mastiff Bat

Western mastiff bat is a California Species of Special Concern. It is most abundant in the southern half of California, but its range extends almost to the Oregon border (Cockrum 1960). This species forages in large, open areas in habitats such as desert washes, floodplains, conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, and agricultural lands (Cockrum 1960, Ross 1961). Roosts include the undersides of large slabs or boulders, trees, cliff faces, and cracks in buildings (Howell 1920; Dalquest 1946; Barbour and Davis 1969). This species typically selects roost sites high above the ground that allow a vertical drop of at least 10 feet to initiate flight (Howell 1920).

There is a single CNDDB occurrence record of western mastiff bat from within 5 miles of the Project site (CDFW 2023). That occurrence, from 1995, overlaps the northwestern portion of Basin B (Figure 3). Trees along Arroyo Pasajero provide potential roosting habitat for this species, and surrounding agricultural lands may provide foraging habitat. However, anthropogenic disturbance in the area associated with agricultural operations limits habitat quality. Therefore, the species has a low potential to occur on or near the Project site.

4.0 Environmental Impacts

4.1 Significance Determinations

This Project, which will result in permanent impacts to agricultural land cover, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such essential habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are known from the area; (5) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands will occur; (6) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion i) as no such policy or ordinance is pertinent to the Project; and (7), conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criteria provided the framework for Criteria BIO1–BIO3 below. These criteria are used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (significance criterion e).

- Criterion BIO2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (criterion f).

- Criterion BIO3: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native

resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significance criterion h).

4.1.1 Direct and Indirect Effects

4.1.1.1 Potential Effect #1: Have a Substantial Effect on Any Special-Status Species (Criterion BIO1)

The Project could adversely affect, either directly or through habitat modifications, three special-status animals that occur or may occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species or substantially modifies its habitat could constitute a significant impact. We recommend that Mitigation Measures BIO1–BIO3 (below) be included in the conditions of approval to reduce the potential impacts to less-than-significant levels.

Mitigation Measure BIO1. Protect nesting Swainson's hawks.

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SWTAC 2000, Appendix D). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site.
3. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

Mitigation Measure BIO2. Protect nesting loggerhead shrikes.

1. To the extent practicable, construction shall be scheduled to avoid the loggerhead shrike nesting season, which extends from January through July.

2. If it is not possible to schedule construction between August and December, a pre-construction survey for nesting loggerhead shrikes shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

Mitigation Measure BIO3. Protect roosting western mastiff bats.

1. A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that no roosting western mastiff bats will be disturbed during the implementation of the Project. A pre-construction clearance survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential roosting habitat in and immediately adjacent to the impact areas. If an active roost is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the roost. If work cannot proceed without disturbing the roosting bats, work may need to be halted or redirected to other areas until the roost is no longer in use.

4.1.1.2 Potential Effect #2: Have a Substantial Effect on Riparian Habitat (Criterion BIO2)

Widening or otherwise modifying the channel of Arroyo Pasajero and installing check dams could substantially impact riparian habitat and therefore constitute a significant impact. We recommend that Mitigation Measure BIO4 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure BIO4. Mitigate impacts to riparian vegetation.

1. To the extent practical, avoid impacting riparian vegetation.

2. If impacts to riparian trees or shrubs are unavoidable, the Project applicant shall implement the tree replacement and maintenance requirements detailed in the Streambed Alteration Agreement issued by the CDFW for the Project. Those requirements are likely to involve replacing trees or shrubs that are damaged or removed by replanting native species at a 3:1 ratio (replaced to lost) and ensuring a performance criterion of 70 percent survival of plantings for a minimum period of five consecutive years, including up to three years with supplemental irrigation and a minimum of two years without such assistance.

4.1.1.3 Potential Effect #3: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO3)

The Project has the potential to impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird in the Project site or immediately adjacent to the construction zone could constitute a significant effect. We recommend that the mitigation measure BIO5 (below) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO5. Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.

2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey

shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

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Appendix A. USFWS list of threatened and endangered species.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fresno County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1610	Endangered
Giant Kangaroo Rat *Dipodomys ingens* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7247	Endangered

Birds

NAME	STATUS

California Condor Gymnogyps californianus — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8193

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard Gambelia silus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower Caulanthus californicus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4599	Endangered
San Joaquin Wooly-threads Monolopia (=Lembertia) congdonii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3746	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

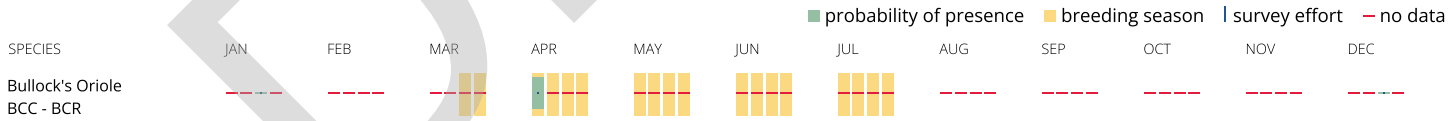
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix B. CNDDB occurrence records.

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Guijarral Hills (3612022) OR Coalinga (3612023) OR Domengine Ranch (3612033) OR Harris Ranch (3612032) OR Calflax (3612031) OR Huron (3612021) OR La Cima (3612011) OR Avenal (3612012) OR Kreyenhagen Hills (3612013))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S2	FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
foothill yellow-legged frog - central coast DPS *Rana boylii pop. 4*	AAABH01054	Proposed Threatened	Endangered	G3T2	S2	
Great Valley Mesquite Scrub *Great Valley Mesquite Scrub*	CTT63420CA	None	None	G1	S1.1	
Hall's tarplant *Deinandra halliana*	PDAST4R0C0	None	None	G3	S3	1B.2
Hoover's eriastrum *Eriastrum hooveri*	PDPLM03070	Delisted	None	G3	S3	4.2
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S2	
Kern mallow *Eremalche parryi ssp. kernensis*	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
Le Conte's thrasher *Toxostoma lecontei*	ABPBK06100	None	None	G3G4	S3	SSC
Lemmon's jewelflower *Caulanthus lemmonii*	PDBRA0M0E0	None	None	G3	S3	1B.2
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
long-eared owl *Asio otus*	ABNSB13010	None	None	G5	S3?	SSC
merlin *Falco columbarius*	ABNKD06030	None	None	G5	S3S4	WL
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Morrison's blister beetle *Lytta morrisoni*	IICOL4C040	None	None	G1G2	S2	
Nelson's (=San Joaquin) antelope squirrel *Ammospermophilus nelsoni*	AMAFB04040	None	Threatened	G2G3	S3	
pale-yellow layia *Layia heterotricha*	PDAST5N070	None	None	G2	S2	1B.1
Panoche pepper-grass *Lepidium jaredii ssp. album*	PDBRA1M0G2	None	None	G2G3T2T3	S2S3	1B.2
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S3	SSC
San Joaquin dune beetle *Coelus gracilis*	IICOL4A020	None	None	G1	S1	
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S3	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
short-nosed kangaroo rat *Dipodomys nitratoides brevinasus*	AMAFD03153	None	None	G3T1T2	S1S2	SSC
showy golden madia *Madia radiata*	PDAST650E0	None	None	G3	S3	1B.1
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Temblor legless lizard *Anniella alexanderae*	ARACC01030	None	Candidate Endangered	G1	S1	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Tulare grasshopper mouse *Onychomys torridus tularensis*	AMAFF06021	None	None	G5T1T2	S1S2	SSC
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
yellow-headed blackbird *Xanthocephalus xanthocephalus*	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 40

Appendix C. CNPS plant list.

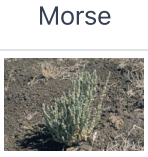
CNPS Rare Plant Inventory

California Native Plant Society

Search Results

19 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3612012:3612013:3612021:3612031:3612032:3612022:3612023:3612033:3612011]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Amsinckia furcata	forked fiddleneck	Boraginaceae	annual herb	Feb-May	None	None	G4	S4	4.2	Yes	1974-01-01	 © 2017 Keir Morse
Atriplex coronata var. *coronata*	crownscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4T3	S3	4.2	Yes	1994-01-01	 © 1994 Robert E. Preston, Ph.D.
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Yes	1994-01-01	 © 2009 Zoya Akulova
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	Yes	1984-01-01	No Photo Available
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	None	None	G3	S3	1B.2	Yes	2001-01-01	No Photo Available
Deinandra halliana	Hall's tarplant	Asteraceae	annual herb	(Mar)Apr-May	None	None	G3	S3	1B.1	Yes	1974-01-01	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Yes	1988-01-01	No Photo Available
Eremalche parryi ssp. *kernensis*	Kern mallow	Malvaceae	annual herb	Jan(Feb)Mar-May	FE	None	G3G4T3	S3	1B.2	Yes	1974-01-01	No Photo Available
Eriastrum hooveri	Hoover's eriastrum	Polemoniaceae	annual herb	Mar-Jul	FD	None	G3	S3	4.2	Yes	1974-01-01	 © 2011 Chris Winchell

Eriogonum gossypinum	cottony buckwheat	Polygonaceae	annual herb	Mar-Sep	None	None	G3G4	S3S4	4.2	Yes	1974-01-01	No Photo Available
Eschscholzia hypecoides	San Benito poppy	Papaveraceae	annual herb	Mar-Jun	None	None	G4	S4	4.3	Yes	1974-01-01	No Photo Available
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	Yes	2019-09-30	 © 2009 California State University, Stanislaus
Layia heterotricha	pale-yellow layia	Asteraceae	annual herb	Mar-Jun	None	None	G2	S2	1B.1	Yes	1994-01-01	 © 2003 Christopher L. Christie
Lepidium jaredii ssp. *album*	Panoche pepper-grass	Brassicaceae	annual herb	Feb-Jun	None	None	G2G3T2T3	S2S3	1B.2	Yes	1994-01-01	 © 2015 Debra L. Cook
Madia radiata	showy golden madia	Asteraceae	annual herb	Mar-May	None	None	G3	S3	1B.1	Yes	1988-01-01	No Photo Available
Malacothamnus aboriginum	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	Apr-Oct	None	None	G3	S3	1B.2	Yes	1974-01-01	 © 2009 Keir Morse
Monolopia congdonii	San Joaquin woollythreads	Asteraceae	annual herb	Feb-May	FE	None	G2	S2	1B.2	Yes	1988-01-01	No Photo Available
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2		1994-01-01	No Photo Available
Trichostema ovatum	San Joaquin bluecurls	Lamiaceae	annual herb	(Apr-Jun)Jul-Oct	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available

Showing 1 to 19 of 19 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 17 October 2023].

Appendix D. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley.

RECOMMENDED TIMING AND METHODOLOGY FOR SWAINSON'S HAWK NESTING SURVEYS IN CALIFORNIA'S CENTRAL VALLEY

Swainson's Hawk Technical Advisory Committee

May 31, 2000

This set of survey recommendations was developed by the Swainson's Hawk Technical Advisory Committee (TAC) to maximize the potential for locating nesting Swainson's hawks, and thus reducing the potential for nest failures as a result of project activities/disturbances. The combination of appropriate surveys, risk analysis, and monitoring has been determined to be very effective in reducing the potential for project-induced nest failures. As with most species, when the surveyor is in the right place at the right time, Swainson's hawks may be easy to observe; but some nest sites may be very difficult to locate, and even the most experienced surveyors have missed nests, nesting pairs, mis-identified a hawk in a nest, or believed incorrectly that a nest had failed. There is no substitute for specific Swainson's hawk survey experience and acquiring the correct search image.

METHODOLOGY

Surveys should be conducted in a manner that maximizes the potential to observe the adult Swainson's hawks, as well as the nest/chicks second. To meet the California Department of Fish and Game's (CDFG) recommendations for mitigation and protection of Swainson's hawks, surveys should be conducted for a ½ mile radius around all project activities, and if active nesting is identified within the ½ mile radius, consultation is required. In general, the TAC recommends this approach as well.

Minimum Equipment

Minimum survey equipment includes a high-quality pair of binoculars and a high quality spotting scope. Surveying even the smallest project area will take hours, and poor optics often result in eye-strain and difficulty distinguishing details in vegetation and subject birds. Other equipment includes good maps, GPS units, flagging, and notebooks.

Walking vs Driving

Driving (car or boat) or "windshield surveys" are usually preferred to walking if an adequate roadway is available through or around the project site. While driving, the observer can typically approach much closer to a hawk without causing it to fly. Although it might appear that a flying bird is more visible, they often fly away from the observer using trees as screens; and it is difficult to determine from where a flying bird came. Walking surveys are useful in locating a nest after a nest territory is identified, or when driving is not an option.

Angle and Distance to the Tree

Surveying subject trees from multiple angles will greatly increase the observer's chance of detecting a nest or hawk, especially after trees are fully leafed and when surveying multiple trees

in close proximity. When surveying from an access road, survey in both directions. Maintaining a distance of 50 meters to 200 meters from subject trees is optimal for observing perched and flying hawks without greatly reducing the chance of detecting a nest/young: Once a nesting territory is identified, a closer inspection may be required to locate the nest.

Speed
Travel at a speed that allows for a thorough inspection of a potential nest site. Survey speeds should not exceed 5 miles per hour to the greatest extent possible. If the surveyor must travel faster than 5 miles per hour, stop frequently to scan subject trees.

Visual and Aural Ques
Surveys will be focused on both observations and vocalizations. Observations of nests, perched adults, displaying adults, and chicks during the nesting season are all indicators of nesting Swainson's hawks. In addition, vocalizations are extremely helpful in locating nesting territories. Vocal communication between. hawks is frequent during territorial displays; during courtship and mating; through the nesting period as mates notify each other that food is available or that a threat exists; and as older chicks and fledglings beg for food.

Distractions
Minimize distractions while surveying. Although two pairs of eyes may be better than one pair at times, conversation may limit focus. Radios should be off, not only are they distracting, they may cover a hawk's call.

Notes and Species Observed
Take thorough field notes. Detailed notes and maps of the location of observed Swainson's hawk nests are essential for filling gaps in the Natural Diversity Data Base; please report all observed nest sites. Also document the occurrence of nesting great homed owls, red-tailed hawks, red-shouldered hawks and other potentially competitive species. These species will infrequently nest within 100 yards of each other, so the presence of one species will not necessarily exclude another.

TIMING

To meet **the minimum level** of protection for the species, surveys should be completed for **at least** the two survey periods immediately prior to a project's initiation. For example, if a project is scheduled to begin on June 20, you should complete 3 surveys in Period III and 3 surveys in Period V. However, it is always recommended that surveys be completed in Periods II, III and V. **Surveys should not be conducted in Period IV.**

The survey periods are defined by the timing of migration, courtship, and nesting in a "typical" year for the majority of Swainson's hawks from San Joaquin County to Northern Yolo County. Dates should be adjusted in consideration of early and late nesting seasons, and geographic differences (northern nesters tend to nest slightly later, etc). If you are not sure, contact a TAC member or CDFG biologist.

Survey dates **Justification and search image**	**Survey time**	**Number of Surveys**
I. *January-March 20 (recommended optional)*	*All day*	*1*

Prior to Swainson's hawks returning, it may be helpful to survey the project site to determine potential nest locations. Most nests are easily observed from relatively long distances, giving the surveyor the opportunity to identify potential nest sites, as well as becoming familiar with the project area. It also gives the surveyor the opportunity to locate and map competing species nest sites such as great homed owls from February on, and red-tailed hawks from March on. After March 1, surveyors are likely to observe Swainson's hawks staging in traditional nest territories.

II. *March 20 to April 5*	*Sunrise to 1000* *1600 to sunset*	*3*

Most Central Valley Swainson's hawks return by April 1, and immediately begin occupying their traditional nest territories. For those few that do not return by April 1, there are often hawks ("floaters") that act as place-holders in traditional nest sites; they are birds that do not have mates, but temporarily attach themselves to traditional territories and/or one of the site's "owners." Floaters are usually displaced by the territories' owner(s) if the owner returns.

Most trees are leafless and are relatively transparent; it is easy to observe old nests, staging birds, and competing species. The hawks are usually in their territories during the survey hours, but typically soaring and foraging in the mid-day hours. Swainson's hawks may often be observed involved in territorial and courtship displays, and circling the nest territory. Potential nest sites identified by the observation of staging Swainson's hawks will usually be active territories during that season, although the pair may not successfully nest/reproduce that year.

III. *April 5 to April 20*	*Sunrise to 1200* *1630 to Sunset*	***3***

Although trees are much less transparent at this time, 'activity at the nest site increases significantly. Both males and females are actively nest building, visiting their selected site frequently. Territorial and courtship displays are increased, as is copulation. The birds tend to vocalize often, and nest locations are most easily identified. This period may require a great deal of "sit and watch" surveying.

IV. *April 21 to June 10*	*Monitoring known nest sites only* ***Initiating Surveys is not recommended***	

Nests are extremely difficult to locate this time of year, and even the most experienced surveyor will miss them, especially if the previous surveys have not been done. During this phase of nesting, the female Swainson's hawk is in brood position, very low in the nest, laying eggs, incubating, or protecting the newly hatched and vulnerable chicks; her head may or may not be visible. Nests are often well-hidden, built into heavily vegetated sections of trees or in clumps of mistletoe, making them all but invisible. Trees are usually not viewable from all angles, which may make nest observation impossible.

Following the male to the nest may be the only method to locate it, and the male will spend hours away from the nest foraging, soaring, and will generally avoid drawing attention to the nest site. Even if the observer is fortunate enough to see a male returning with food for the female, if the female determines it is not safe she will not call the male in, and he will not approach the nest; this may happen if the observer, or others, are too close to the nest or if other threats, such as rival hawks, are apparent to the female or male.

V. ***June 10 to JuIy 30 (post-fledging)*** ***Sunrise to 1200*** ***3***
1600 to sunset

Young are active and visible, and relatively safe without parental protection. Both adults make numerous trips to the nest and are often soaring above, or perched near or on the nest tree. The location and construction of the nest may still limit visibility of the nest, young, ‘and adults.

DETERMINING A PROJECT'S POTENTIAL
FOR IMPACTING SWAINSON'S HAWKS

LEVEL OF RISK	REPRODUCTIVE SUCCESS (Individuals)	LONGTERM SURVIVABILITY (Population)	NORMAL SITE CHARACTERISTICS (Daily Average)	NEST MONI-TORING
HIGH	Direct physical contact with the nest tree while the birds are on eggs or protecting young. (Helicopters in close proximity)	Loss of available foraging area.	Little human-created noise, little human use: nest is well away from dwellings, equipment yards, human access areas, etc. *Do not include general cultivation practices in evaluation.*	**MORE**
		Loss of nest trees.		
	Loss of nest tree after nest building is begun prior to laying eggs.	Loss of potential nest trees.		
	Personnel within 50 yards of nest tree (out of vehicles) for extended periods while birds are on eggs or protecting young that are < 10 days old.	Cumulative: Multi-year, multi-site projects with substantial noise/personnel disturbance.		
	Initiating construction activities (machinery and personnel) within 200 yards of the nest after eggs are laid and before young are > 10 days old.	Cumulative: Single-season projects with substantial noise/personnel disturbance that is greater than or significantly different from the daily norm.		
	Heavy machinery only working within 50 yards of nest.		Substantial human-created noise and occurrence: nest is near roadways, well-used waterways, active airstrips, areas that have high human use. *Do not include general cultivation practices in evaluation.*	
	Initiating construction activities within 200 yards of nest before nest building begins or after young > 10 days old.	Cumulative: Single-season projects with activities that "blend" well with site's "normal' activities.		
LOW	All project activities (personnel and machinery) greater than 200 yards from nest.			**LESS**