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Description:	This section describes biological resources in and near the Darden Clean Energy Project, and the potential impacts that the Project may have on these resources.
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5.12 Biological Resources

This section describes biological resources in and near the Darden Clean Energy Project (Project), and the potential effects that the Project may have on these resources. This section includes information from the Biological Resources Assessment (BRA) prepared for the Project by Rincon Consultants, Inc (Rincon; Appendix Q). Section 5.12.1 discusses the environmental setting. Section 5.12.2 provides a brief regulatory overview of applicable federal, state, and local policies and regulations to the Project. Section 5.12.3 identifies potential impacts that may result from Project construction, operation (including maintenance), and closure. Section 5.12.4 evaluates potential cumulative impacts on biological resources and Section 5.12.5 presents laws, ordinances, regulations, and standards (LORS) applicable to biological resources. Section 5.12.6 presents the regulatory agency contacts and Section 5.12.7 describes permits required for the Project related to biological resources.

5.12.1 Environmental Setting

This section provides an overview of existing conditions as further detailed in the BRA (Appendix Q). The BRA includes a full discussion of the methodologies used to conduct the assessment, including details on the literature review, field reconnaissance survey, ongoing biological site inspections, and species-specific analyses and surveys. The Biological Study Area (BSA) considered in the BRA is defined for this Project as the approximately 9,500-acre Project site encompassing all Project components, including the gen-tie line ROW, plus a general 100-foot survey buffer where accessible. The 100-foot survey buffer was selected to adequately capture the Project site and vicinity for impact analysis due to the homogeneity of the land cover types surrounding the site. Biological studies included a reconnaissance-level field survey, monthly site inspections to assess annual patterns in site conditions and wildlife activity, a San Joaquin kit fox (*Vulpes macrotis mutica*) habitat assessment of the Project site in a regional context, local protocol Swainson's hawk (*Buteo swainsoni*) surveys to assess nesting within 0.5 mile of the Project site, and regional Swainson's hawk nest surveys to inform a Swainson's hawk foraging analysis. These studies incorporated species-specific buffers of 0.5 mile for the protocol surveys and 10 miles for the foraging analysis. The BSA is displayed on Figure 5.12-1.

As detailed in the BRA, the following resources were reviewed for information on existing conditions relating to biological resources:

- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2023a)
- California Department of Fish and Wildlife (CDFW) Special Animals List (2023b)
- CDFW *California Natural Diversity Database* (CNDDB; CDFW 2023a)
- CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2023c)
- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper (USFWS 2023b)
- USFWS National Wetlands Inventory (NWI) (USFWS 2023c)
- USGS National Hydrography Dataset (NHD) (USGS 2023)
- California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2023)
- eBird: An online database of bird distribution and abundance (eBird 2023)

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Figure 5.12-1 Biological Study Area Overview

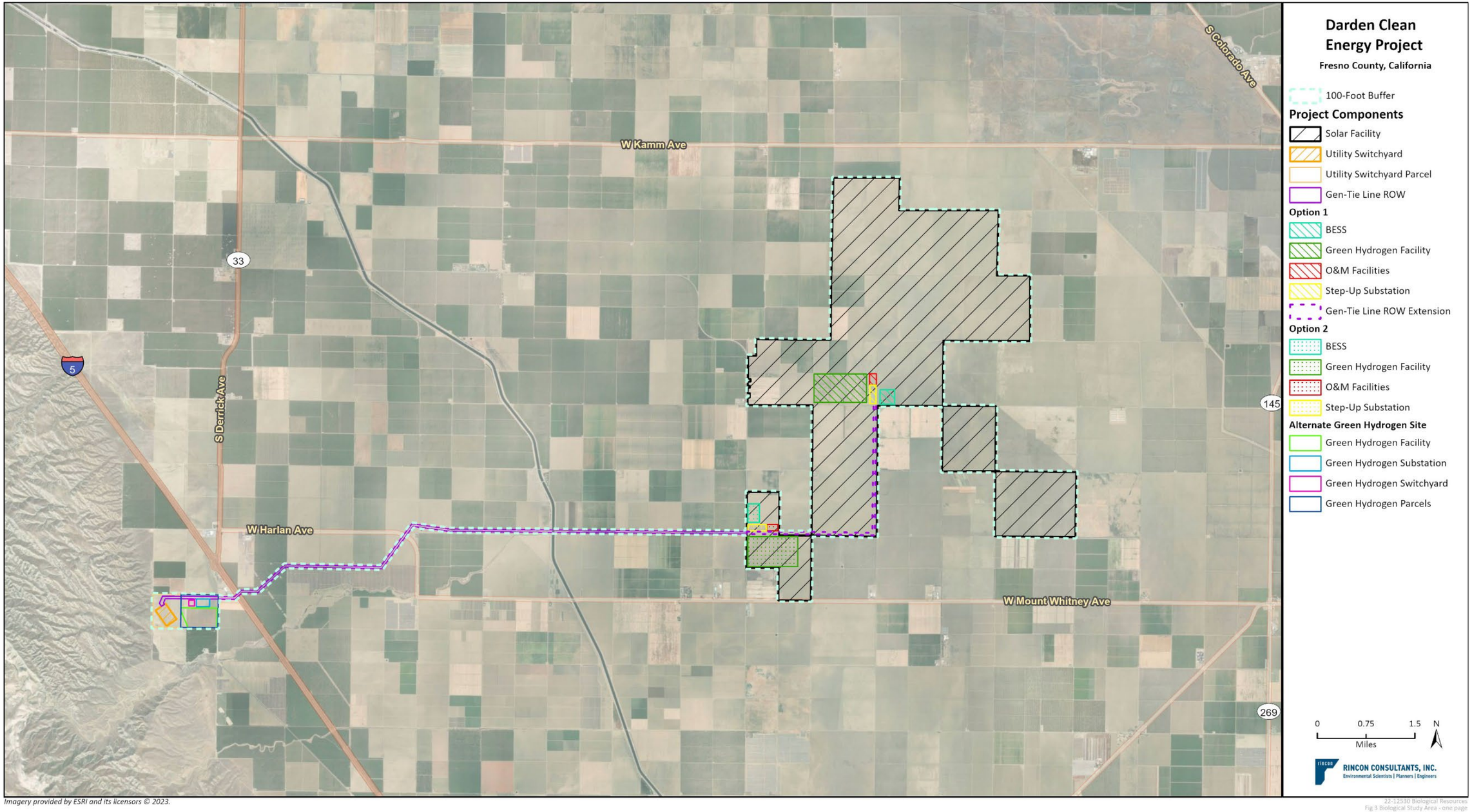

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Fig 3 Biological Study Area - one page

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5.12.1.1 Existing Conditions

Topography and Geography

The Project site is in unincorporated Fresno County in the San Joaquin Valley. The San Joaquin Valley is bounded by the Sacramento – San Joaquin River Delta to the north, the Diablo Mountain Range to the west, the Sierra Nevada Mountains to the east, and the Tehachapi Range to the south. The region is primarily composed of agricultural land dating back to as early as the 1940s, and cattle grazing land, with areas of residential and industrial development primarily concentrated near Fresno. Vegetation occurring in the San Joaquin Valley mostly consist of annual/ruderal grassland, pasture, cropland, valley-foothill riparian, vernal pool, alkali scrub, and orchard-vineyard (Fresno County 2000). The Project site is relatively flat, with elevations ranging from approximately 186 to 644 feet above mean sea level (AMSL), increasing elevation from the east to the west and southwest towards the Diablo Range. Geography in the vicinity of the Project site includes agriculture with a few small scattered rural residential areas and small solar facilities. Topography within each of the Project component sites is detailed in the BRA.

Watershed and Drainages

The Project site is located in the Arroyo Hondo -Fresno Slough Watershed (Hydrologic Unit Code [HUC]-10 180300090803) and the Cantua Creek-Fresno Slough Watershed (HUC-10 180300090608). The California Aqueduct crosses the proposed gen-tie line corridor approximately 3-miles west of the proposed solar facility. Cantua Creek roughly parallels the gen-tie line approximately 0.25- to 0.5-mile south of the gen-tie line corridor west of the aqueduct. This creek is identified as a dashed “blue-line creek” in the NHD and as a riverine intermittent streambed seasonally flooded in the NWI. Ephemeral swales formed in the draws of the hillsides and two impoundments are present outside of the Project site, within the buffer on the west end of the jurisdictional study area defined in the BRA. There are several excavated palustrine wetlands within the jurisdictional study area, identified in the NWI as either unconsolidated bottom, unconsolidated shore, or emergent, and seasonally or semi-permanently flooded (USFWS 2023c). Three excavated basins located on the east side of the solar facility are mapped as intermittent riverine features in the NWI. Additional agricultural ditches, canals, and excavated basins that were not documented in the NWI or NHD were mapped during the December 2022 reconnaissance and August 2023 delineation surveys. All potentially jurisdictional features observed during the surveys and those included in the NWI and NHD are shown in Figure 5.12-2a through Figure 5.12-2g. The Project site is situated within the jurisdiction of the Central Valley Region of the Regional Water Quality Control Board (RWQCB) (Region 5). Watersheds and drainages within each of the Project component sites is detailed in the BRA.

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Figure 5.12-2a Regional Aquatic Resources Overview – NHD and NWI Features

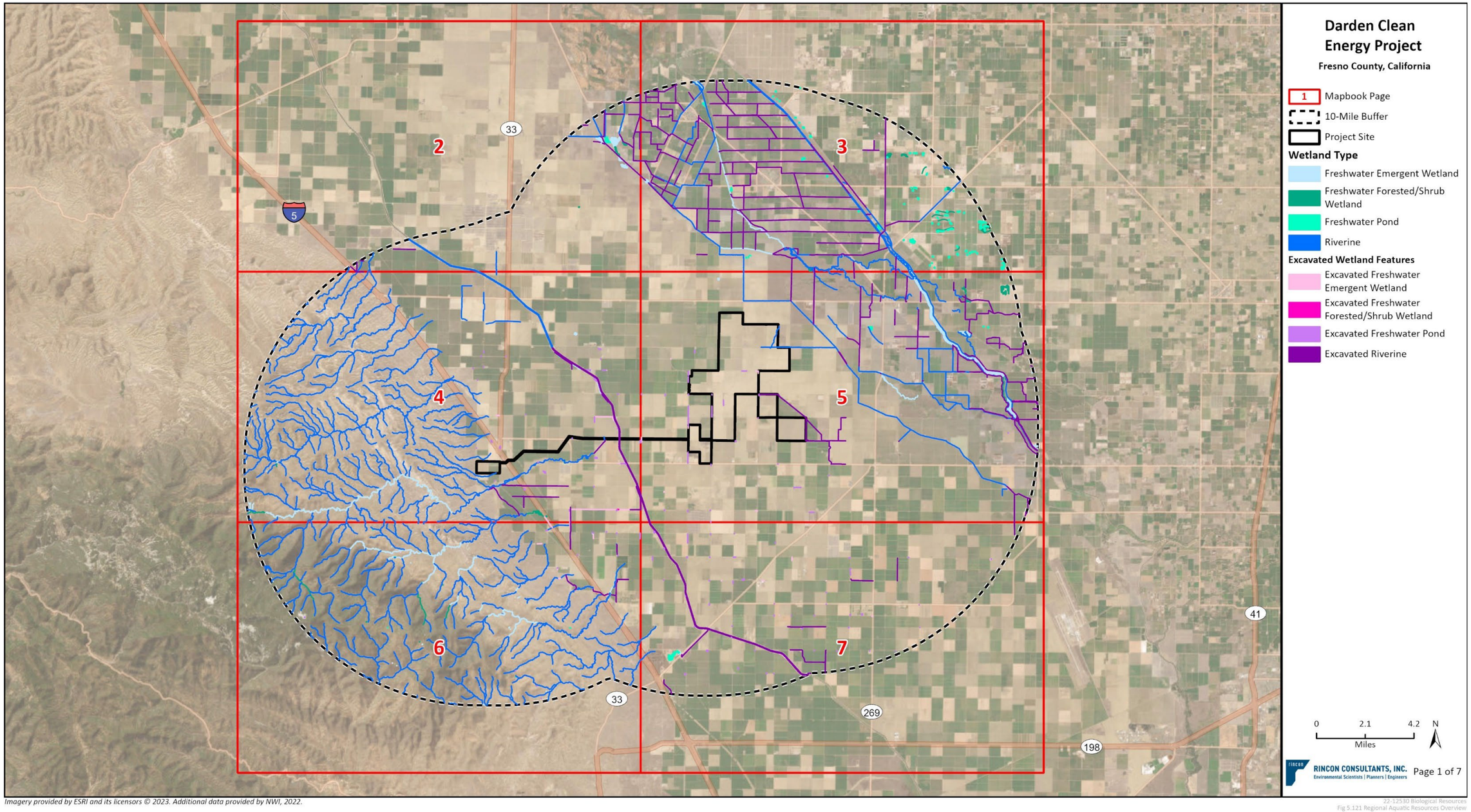

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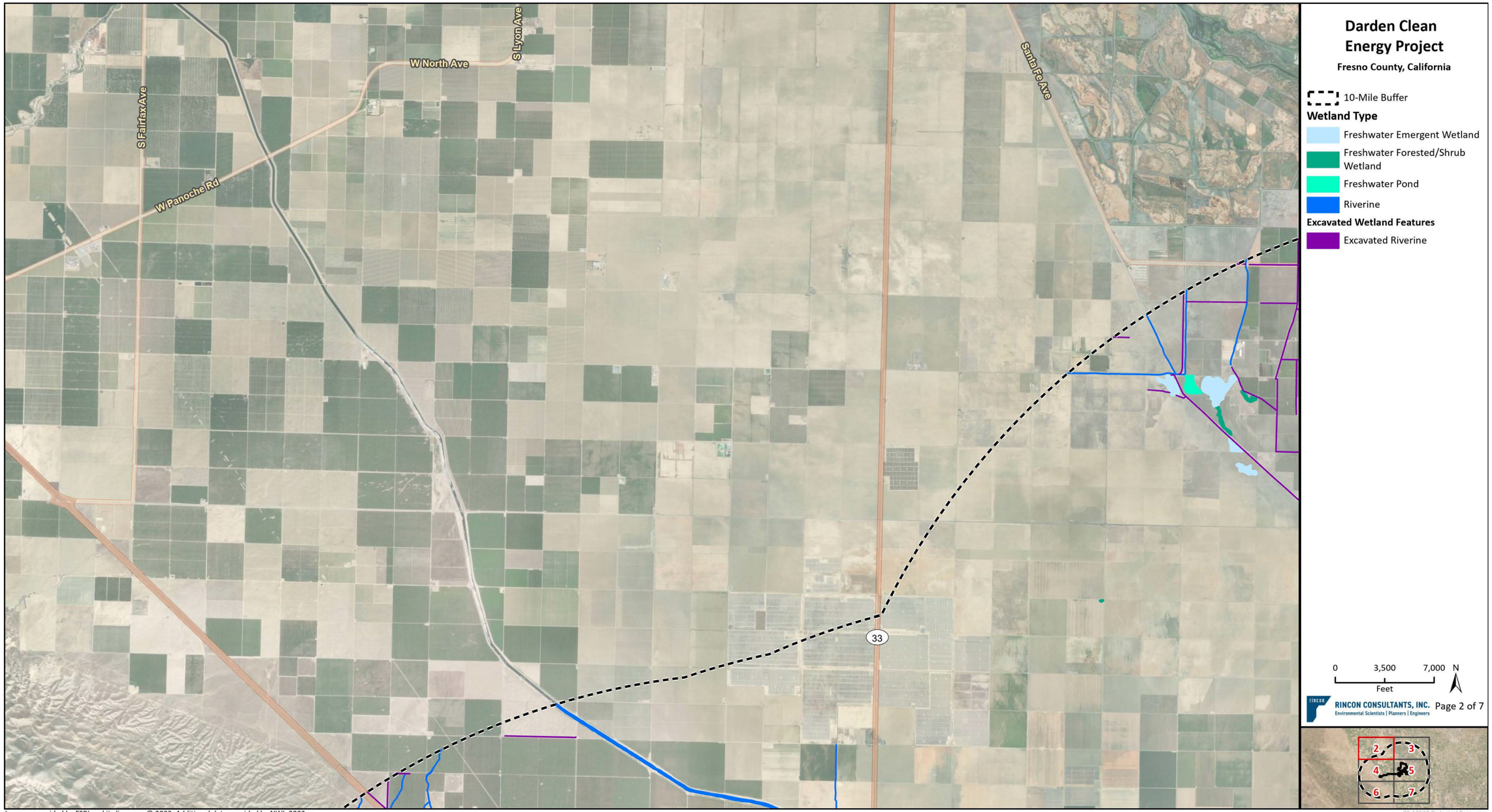
Fig 5.121 Regional Aquatic Resources Overview

Figure 5.12-2b Regional Aquatic Resources – NHD and NWI Features (Mapbook Page 2)



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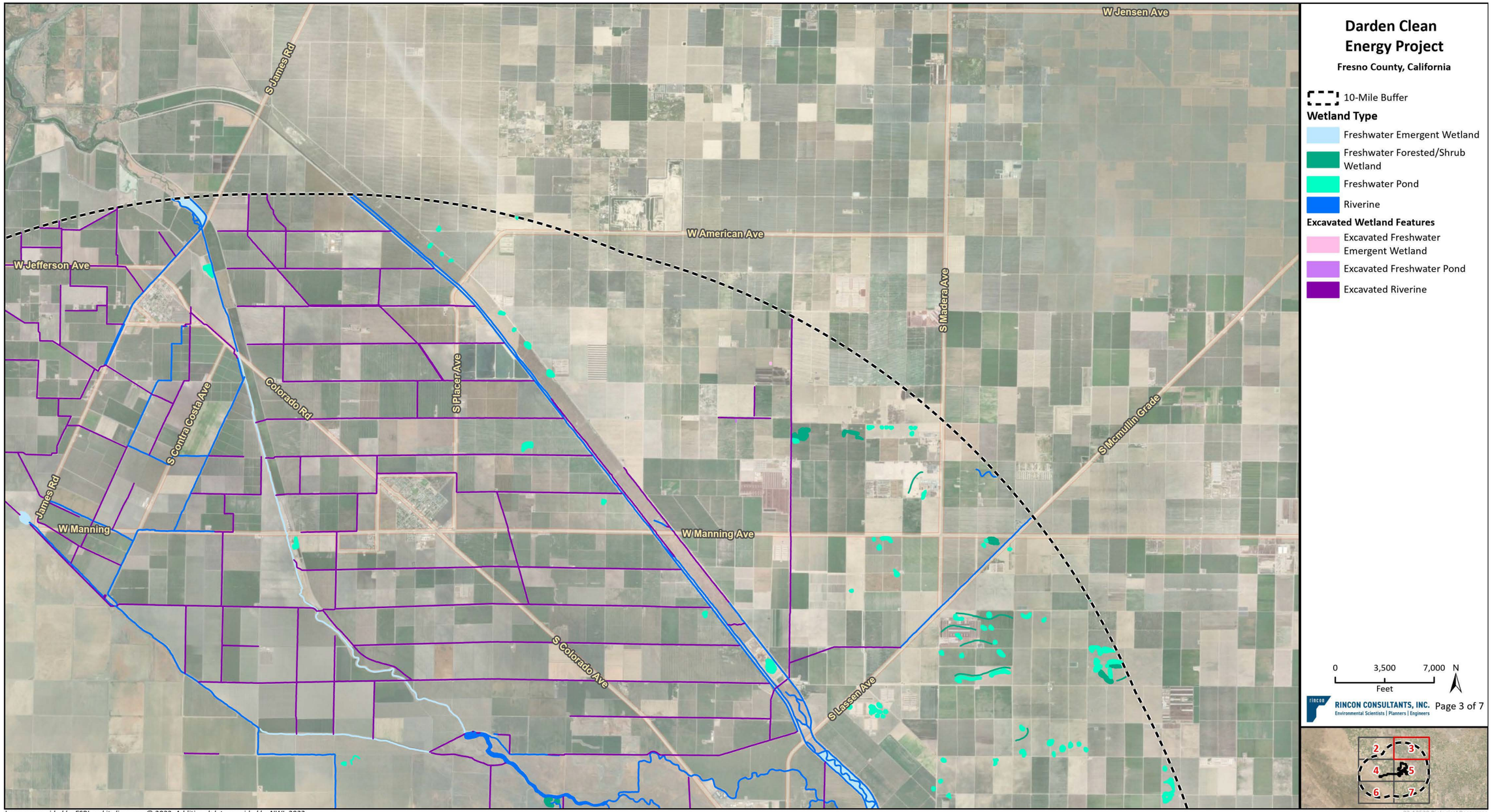
22-12530 Biological Resources
Fig 5.12-1 Regional Aquatic Resources

Figure 5.12-2c Regional Aquatic Resources – NHD and NWI Features (Mapbook Page 3)



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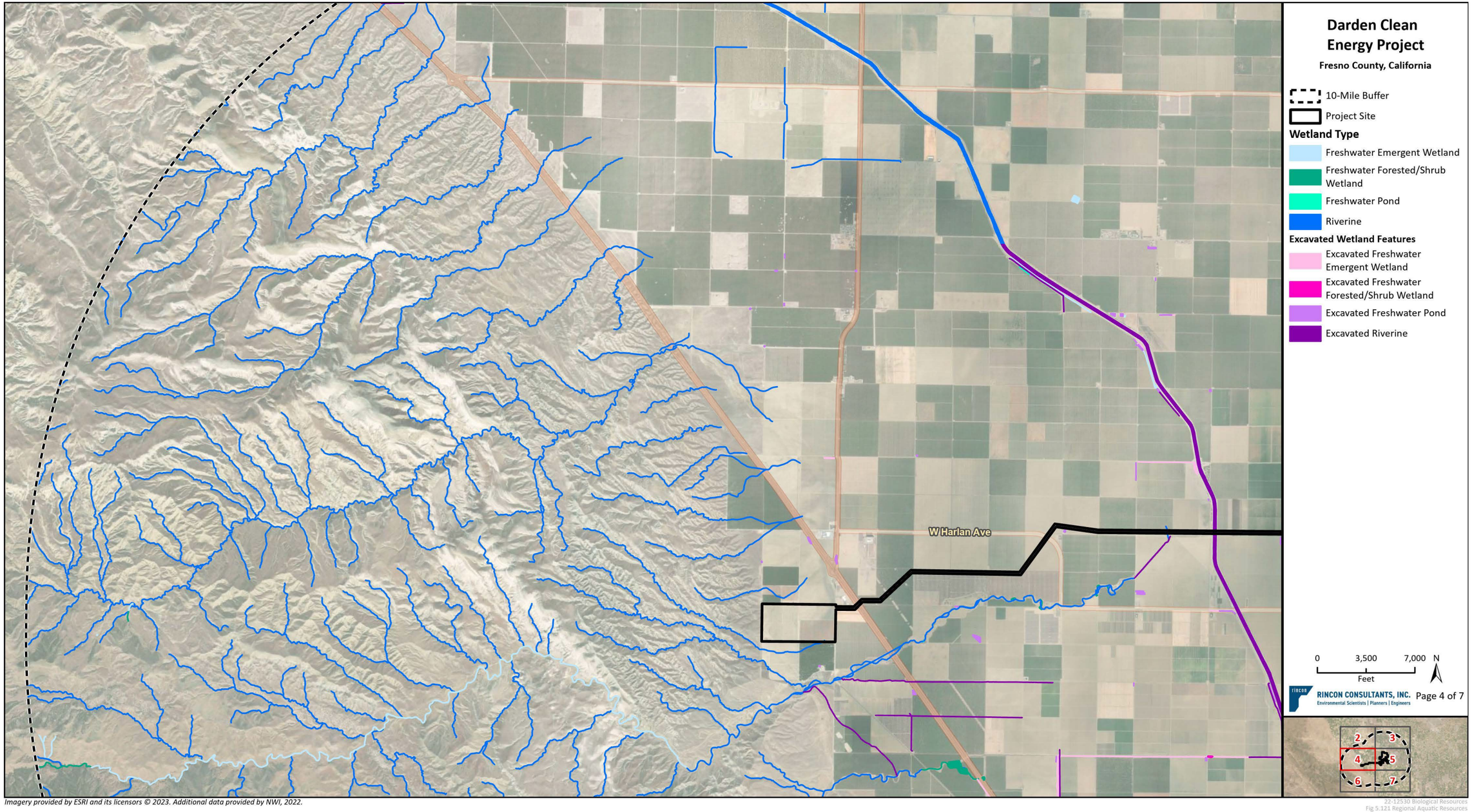
22-12530 Biological Resources
Fig 5.12-1 Regional Aquatic Resources

Figure 5.12-2d Regional Aquatic Resources – NHD and NWI Features (Mapbook Page 4)



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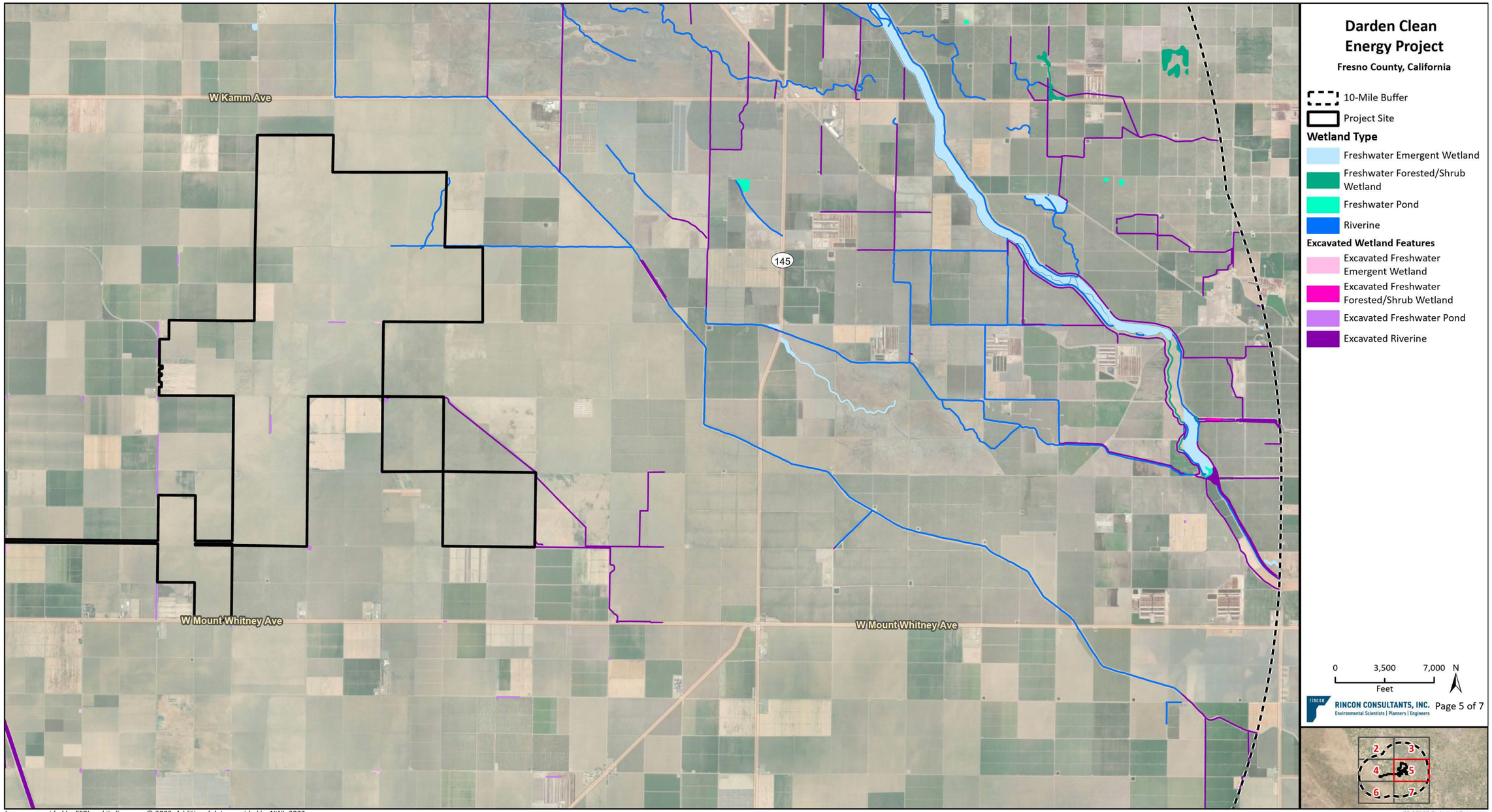
22-12530 Biological Resources
Fig 5.12-1 Regional Aquatic Resources

Figure 5.12-2e Regional Aquatic Resources – NHD and NWI Features (Mapbook Page 5)



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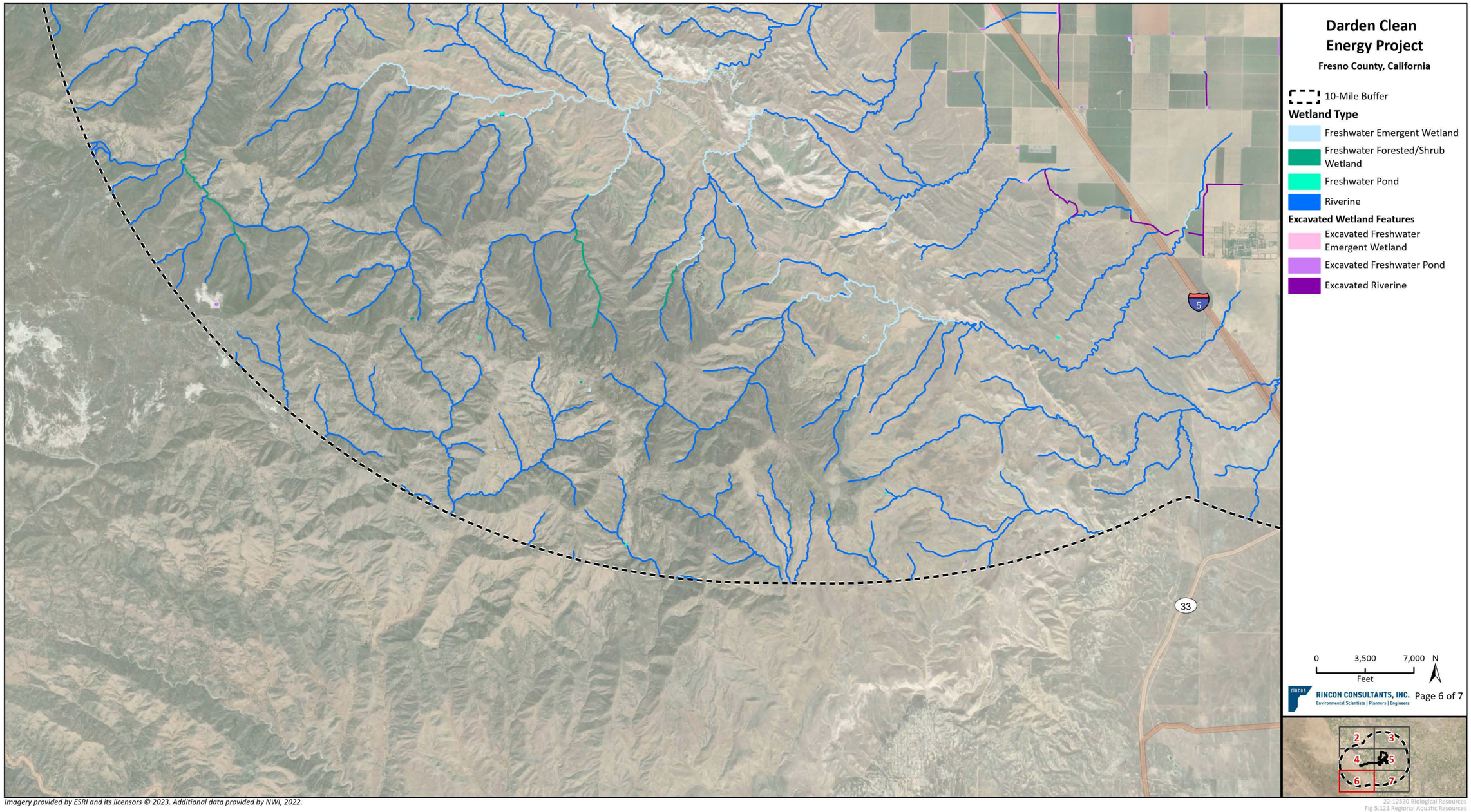
22-12530 Biological Resources
Fig 5.12-1 Regional Aquatic Resources

Figure 5.12-2f Regional Aquatic Resources – NHD and NWI Features (Mapbook Page 6)



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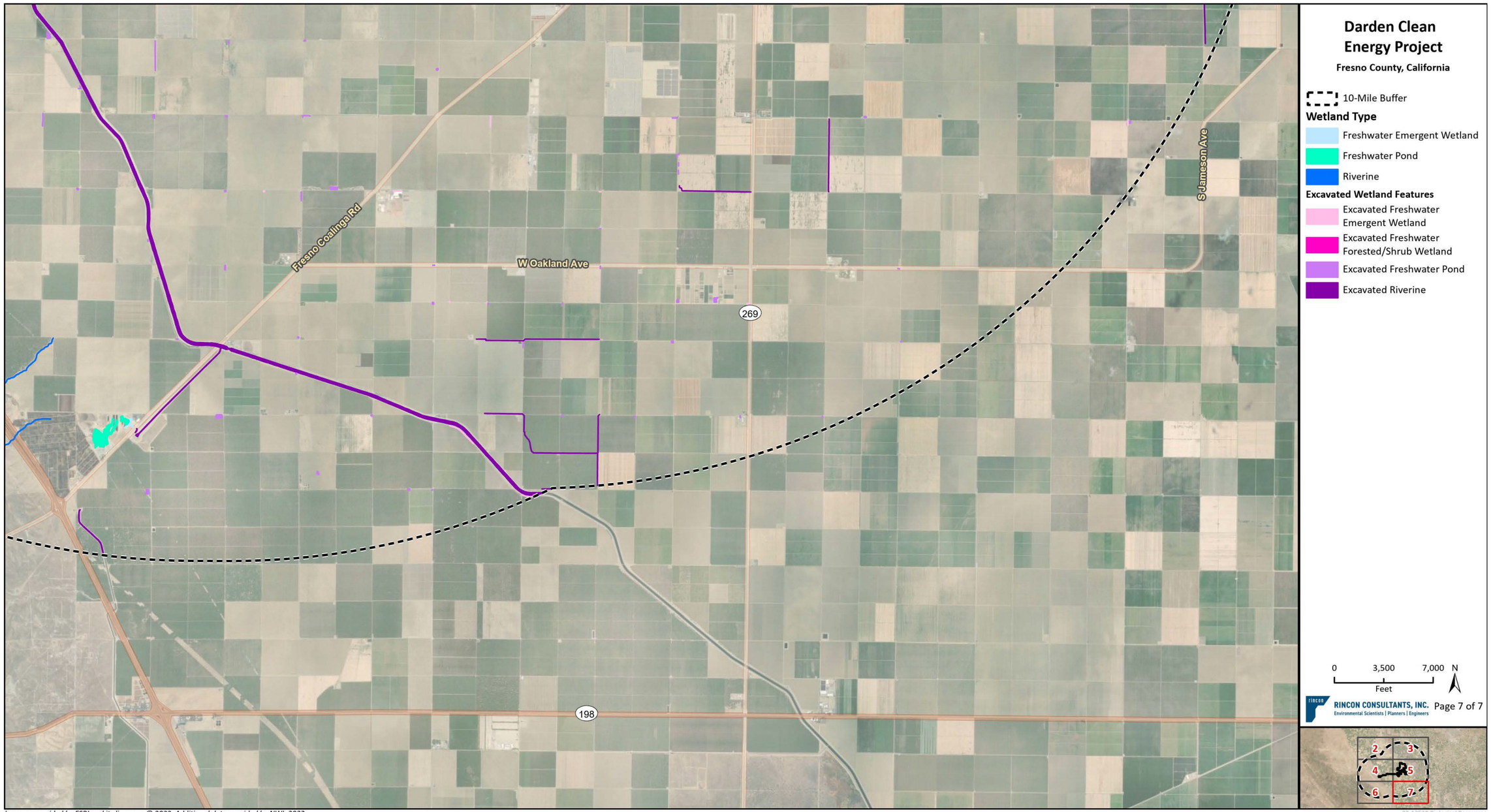
22-12530 Biological Resources
Fig 5.12-1 Regional Aquatic Resources

Figure 5.12-2g Regional Aquatic Resources – NHD and NWI Features (Mapbook Page 7)



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22-12530 Biological Resources
Fig 5.12-1 Regional Aquatic Resources

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Vegetation and Other Land Cover

The BRA describes the Project site and vicinity as dominated by active and seasonally managed non-active agricultural fields. During the spring, tomatoes and garlic were grown on some of the parcels, and most of the non-active parcels were grown over with mustard (*Brassica nigra*), then were disked in May. Plant species observed included black mustard (*Brassica nigra*)*,* bread wheat (*Triticum aestivum),* great valley phacelia (*Phacelia ciliata)* and field bindweed (*Convolvulus arvensis*). Larger trees were generally restricted to windrows or situated around structures and included red gum eucalyptus (*Eucalyptus camaldulensis*), arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*) and local agricultural trees including olive, almond, and various fruit. Vegetation and other land cover types within each of the Project component sites is detailed in the BRA.

General Wildlife

Most wildlife detected during the reconnaissance survey, further described in Section 5.12.1.2, were common to the region. Most raptors were observed soaring above or perched on poles or wires. Burrowing owls (*Athene cunicularia*) were generally observed in larger irrigation ditches, at the ends of irrigation piping, or along the edges of dirt roads.

Wildlife detected during the reconnaissance surveys and ongoing biological inspections were consistent with expectations for an agricultural setting of the Central Valley. Bird diversity was high and included common resident species and expected migrant species during spring and fall migratory seasons, while mammal, reptile, and amphibian diversity was low. Common bird species observed included Anna's hummingbird (*Calypte anna*), barn owl (*Tyto alba*), black phoebe (*Sayornis nigricans*), Canada goose (*Branta canadensis),* common raven (*Corvus corax*), dark-eyed junco (*Junco hyemalis*), great egret (*Ardea alba)*, killdeer (*Charadrius vociferus)*, mourning dove (*Zenaida macroura)*, northern mockingbird (*Mimus polyglottos*), red-tailed hawk (*Buteo jamaicensis)*, western meadowlark (*Sturnella neglecta)*, white-crowned sparrow (*Zonotrichia leucophrys*), and yellow-rumped warbler (*Setophaga coronate)*. Common mammals observed included black-tailed jackrabbit (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Otospermophilus beecheyi*), and coyote (*Canis latrans*). Reptiles and amphibians observed included California king snake (*Lampropeltis californiae*), western fence lizard (*Sceloporus occidentalis*), and western toad (*Anaxyrus boreas*). A full list of wildlife detected during the surveys is included in Appendix Q-5 of the BRA (Appendix Q).

5.12.1.2 Surveys

This section discusses the surveys that were performed and Section 5.12.1.3 discusses the special-status species and sensitive biological resources that were observed in the BSA during the survey efforts.

Field Reconnaissance Survey

Four Rincon biologists conducted field reconnaissance surveys throughout the BSA on three consecutive days, December 14-16, 2022. A reconnaissance survey along the gen-tie corridor was conducted by two biologists on March 31, 2023. Reconnaissance surveys focused on documenting existing conditions and biological resources, field-verifying land cover types and any native vegetation communities and evaluating the BSA for the potential to support special-status plant and wildlife species, sensitive plant communities, wildlife corridors and nursery sites, locally protected

resources, and potential jurisdictional waters. Results of the surveys were used to identify suitable habitat that may require focused protocol surveys or other more involved analyses, and to develop a research approach for evaluating existing biological resources in the BSA.

The reconnaissance surveys consisted of a combination of vehicular windshield surveys and pedestrian surveys. Windshield surveys were conducted where agricultural parcels were recently disked and vegetation cover was non-existent or extremely low. Biologists conducted all surveys with the aid of binoculars to support the observation and identification of biological resources. Particular attention was given to areas with lower levels of disturbance and a higher likelihood of supporting special-status species such as burrowing owl, blunt-nosed leopard lizard (*Gambelia sila*), Swainson's hawk, and San Joaquin kit fox. Rincon biologists conducted vehicular windshield surveys and walked pedestrian transects along plot edges where open pipes were observed and within ditches. Wildlife was also detected via the observation of calls, tracks, scat, nests, or other signs of presence. Irrigation ditches and open pipes were mapped using ArcGIS FieldMaps. Biologists also documented and mapped points where any sign or presence of special-status species were observed within the BSA, which are shown in Figure 5.12-3a through Figure 5.12-3e. Because the same individual, or sign from that individual, could have occurred at multiple locations, the number of mapped points may not represent the actual number of individuals observed. No special-status plant species were observed during the reconnaissance surveys; therefore, these figures are limited to wildlife observations only.

Biologists captured representative photographs documenting vegetation communities, irrigation ditches, open pipes, species sign, or other notable biological observations. Photographs and a figure depicting photo point, burrow point, and species point locations are included in Appendix Q-4 of the BRA (Appendix Q) and a compendia of plants and wildlife observed during surveys are included in Appendix Q-5 of the BRA (Appendix Q).

Species-Specific Analyses and Surveys

Based on the literature review, habitat assessments of Swainson's hawk and San Joaquin kit fox were conducted. Protocol surveys for Swainson's hawk were determined to be necessary based on the habitat assessment.

San Joaquin Kit Fox Habitat Assessment Survey

A focused habitat assessment for San Joaquin kit fox was conducted and prepared by H.T. Harvey & Associates in March of 2023 (HT Harvey & Associates 2023). The assessment included a reconnaissance-level field survey conducted on December 8, 9, 13, and 14, 2022 within the Project site and a desktop evaluation of habitat within 5 miles, which approximated the average dispersal distance of San Joaquin kit fox from its natal habitat. Habitat suitability for San Joaquin kit fox was modeled both within the Project site and the 5-mile buffer based on preferred habitat attributes identified within the species' historical range by Cypher et al. (2013), verification of existing conditions using aerial imagery and the reconnaissance survey, and San Joaquin kit fox home range estimates based on prey availability. The full San Joaquin Kit Fox Habitat Assessment is included in Appendix Q-6 of the BRA (Appendix Q).

Swainson's Hawk Protocol Surveys and Foraging Analysis Surveys

A literature review of previously documented Swainson's hawk nests was conducted by Stringer Biological Consulting, Inc. (SBC). Following the literature review, surveys were conducted within the entire Project site, a 0.5-mile buffer around the Project site (protocol surveys), and a 10-mile buffer

around the Project site (foraging habitat impacts analysis). Biologists documented all observed raptor nests and all observed species of nesting raptors during both surveys (Figure 5.12-3a through Figure 5.12-3e). Protocol nesting Swainson's hawk surveys were conducted in accordance with the guidelines prepared by the Swainson's hawk Technical Advisory Committee (TAC) in the document *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (TAC 2000). The Project site was surveyed a total of six times during survey Periods II (March 20 to April 5, early territory establishment), III (April 5 to April 20, nest building), IV (April 21 to June 10, monitoring known nest sites), and V (June 10 to July 30, monitoring for nestlings and fledglings) by SBC and Rincon biologists with extensive experience conducting Swainson's hawk surveys (SBC and Rincon 2023). The full *Swainson's Hawk Nesting Survey Report* is included in Appendix Q-7 of the BRA (Appendix Q). In the Project site and 10-mile buffer, a survey of active and known previously active nests, and potentially suitable foraging habitat was conducted by SBC and qualified Rincon biologists. The amount of suitable foraging habitat required for the nesting Swainson's hawks within the Project site and within the 10-mile buffer, the amount of suitable habitat available, and impacts to that habitat were analyzed following methodology developed for other utility-scale solar project in the Central Valley reviewed in Estep (2017) (SBC 2023). The *Analysis of Project Impacts to Swainson's Hawk Foraging Habitat* is in Appendix Q-8 of the BRA (Appendix Q).

Aquatic Resources Delineation

Rincon regulatory specialists conducted a delineation of on-site aquatic resources following protocol consistent with the current federal and state methods and guidelines (Appendix Q-9 of Appendix Q). This guidance is typically used to identify and delineate aquatic features and develop a preliminary determination of the limits of jurisdictional areas. The jurisdictional study area included all project components and a 250-foot buffer and is situated within the jurisdiction of the Central Valley Region of the RWQCB (Region 5). On August 21-22, 2023, the Rincon biologists surveyed the jurisdictional study area by car and on foot documenting aquatic resources and verifying previously mapped resources identified in the NWI, the December 2022 reconnaissance surveys, and the pre-field investigation.

Drainage features, riparian habitat, and wetland sample points were mapped using a Trimble® GeoXT GPS unit and recent aerial photography. Width measurements for RWQCB jurisdictional waters were determined based on the lateral extent of the ordinary high-water mark (OHWM). CDFW jurisdictional limits were measured laterally from bank to bank at the top of the channel, or to the outer drip-line of associated riparian vegetation, if present. Wetland Sample Points and OHWM data sheets were completed at representative locations. Section 5.12.1.3 discusses the findings of this aquatic resources delineation under *Jurisdictional Waters and Wetlands*.

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Figure 5.12-3a Observed Wildlife Species in the Project Site (Overview)

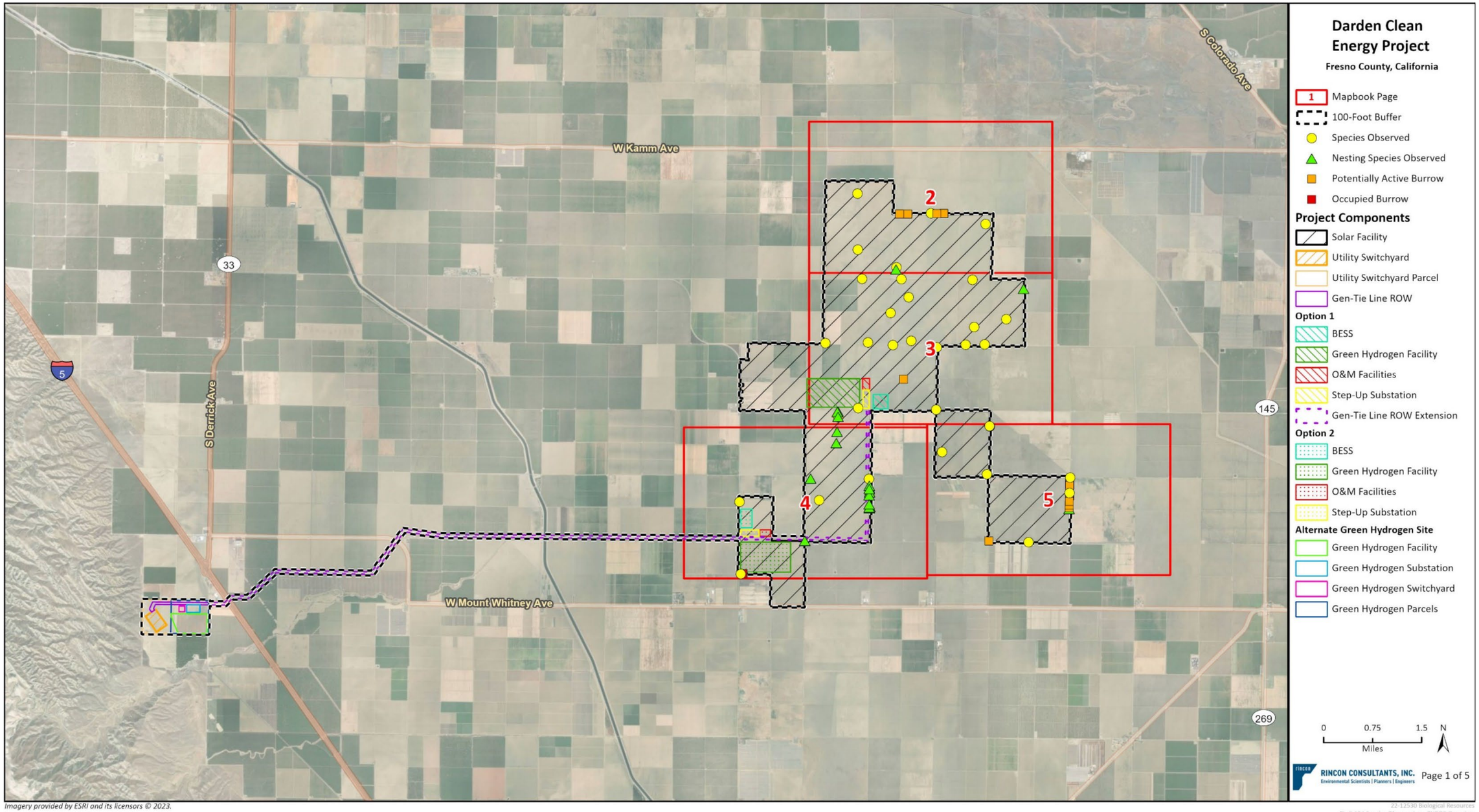

Figure 5.12-3b Observed Wildlife Species in the Project Site (Mapbook Page 2)

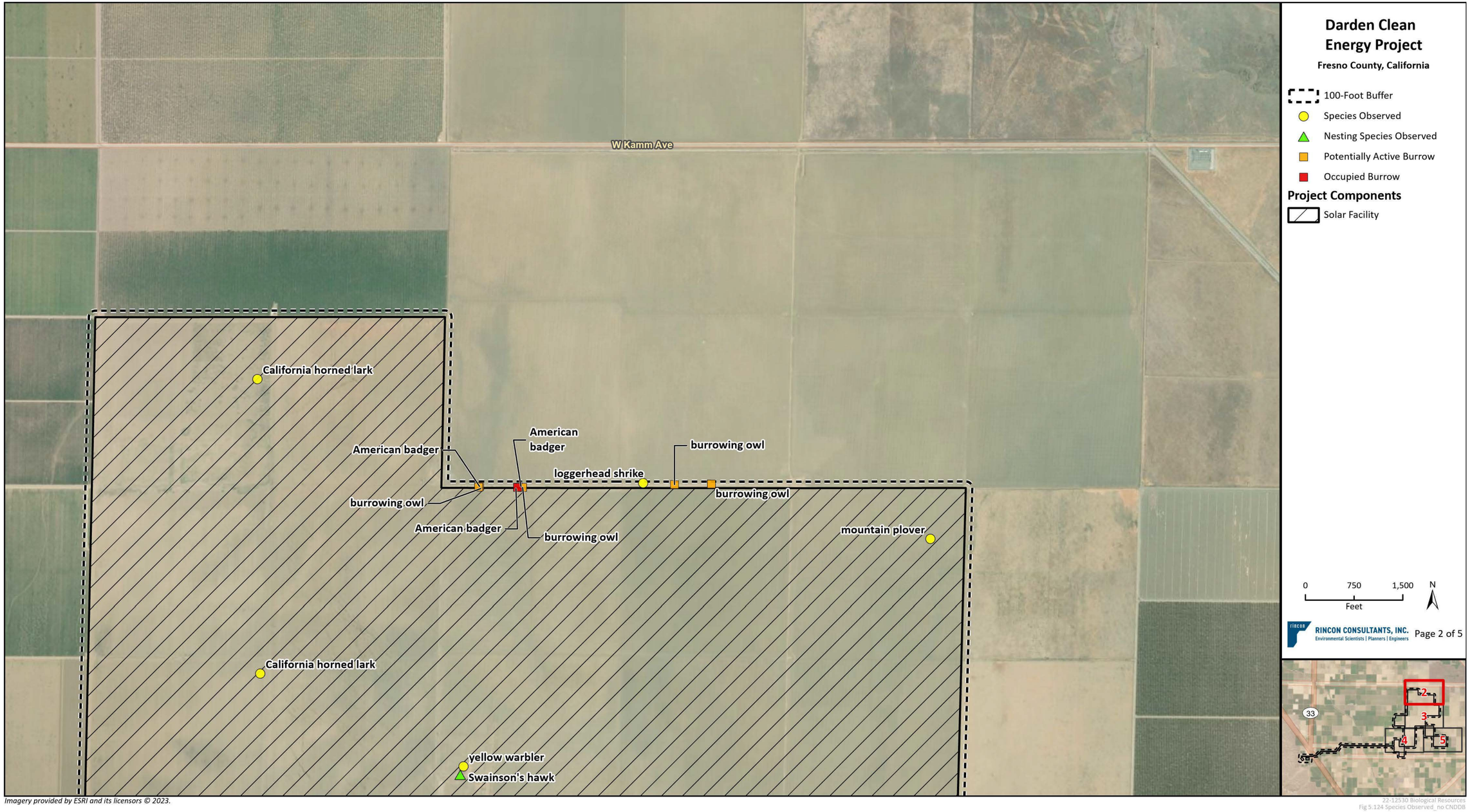

Figure 5.12-3c Observed Wildlife Species in the Project Site (Mapbook Page 3)

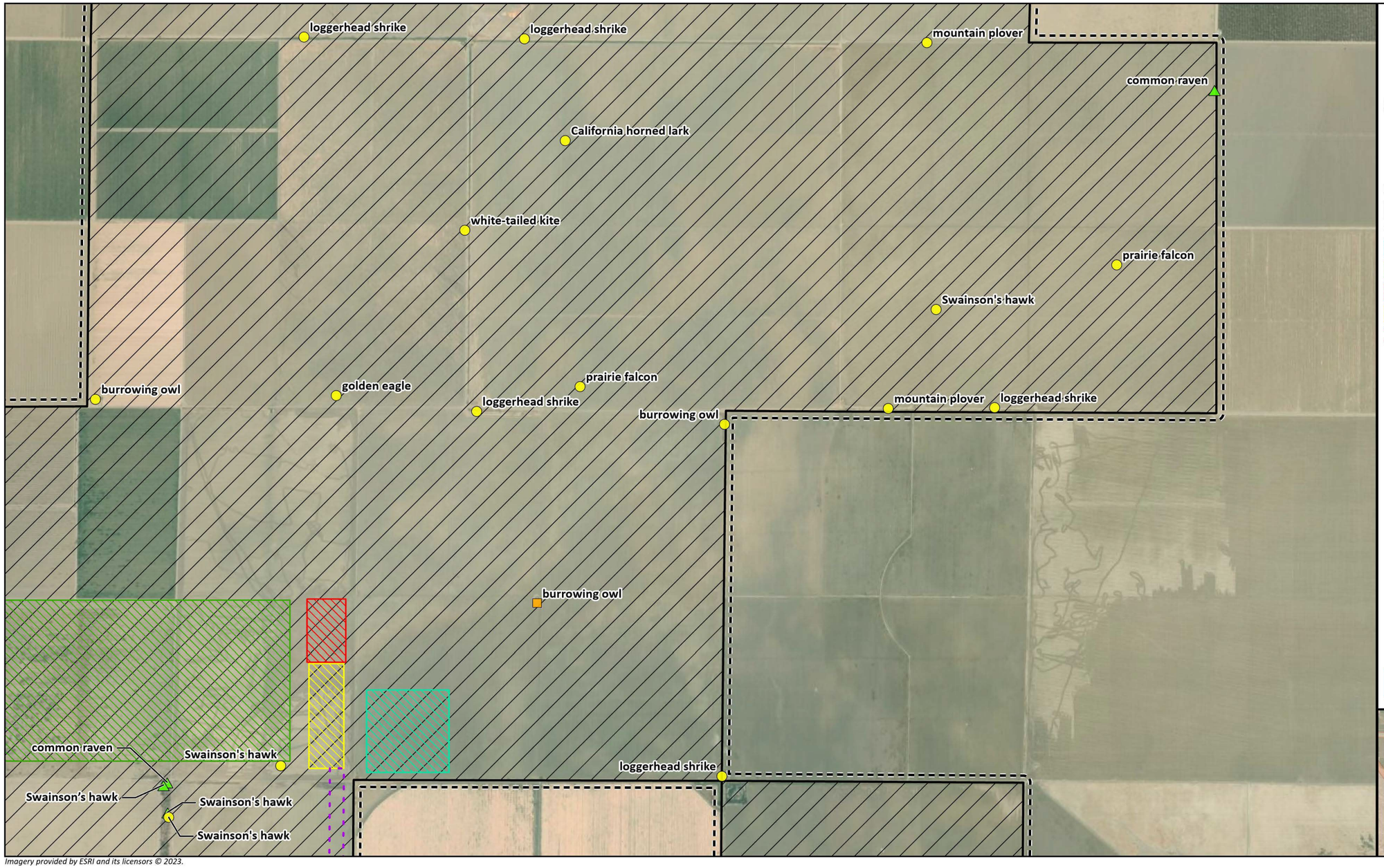

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Fig 5.12-4 Species Observed_no CNDDB

Figure 5.12-3d Observed Wildlife Species in the Project Site (Mapbook Page 4)

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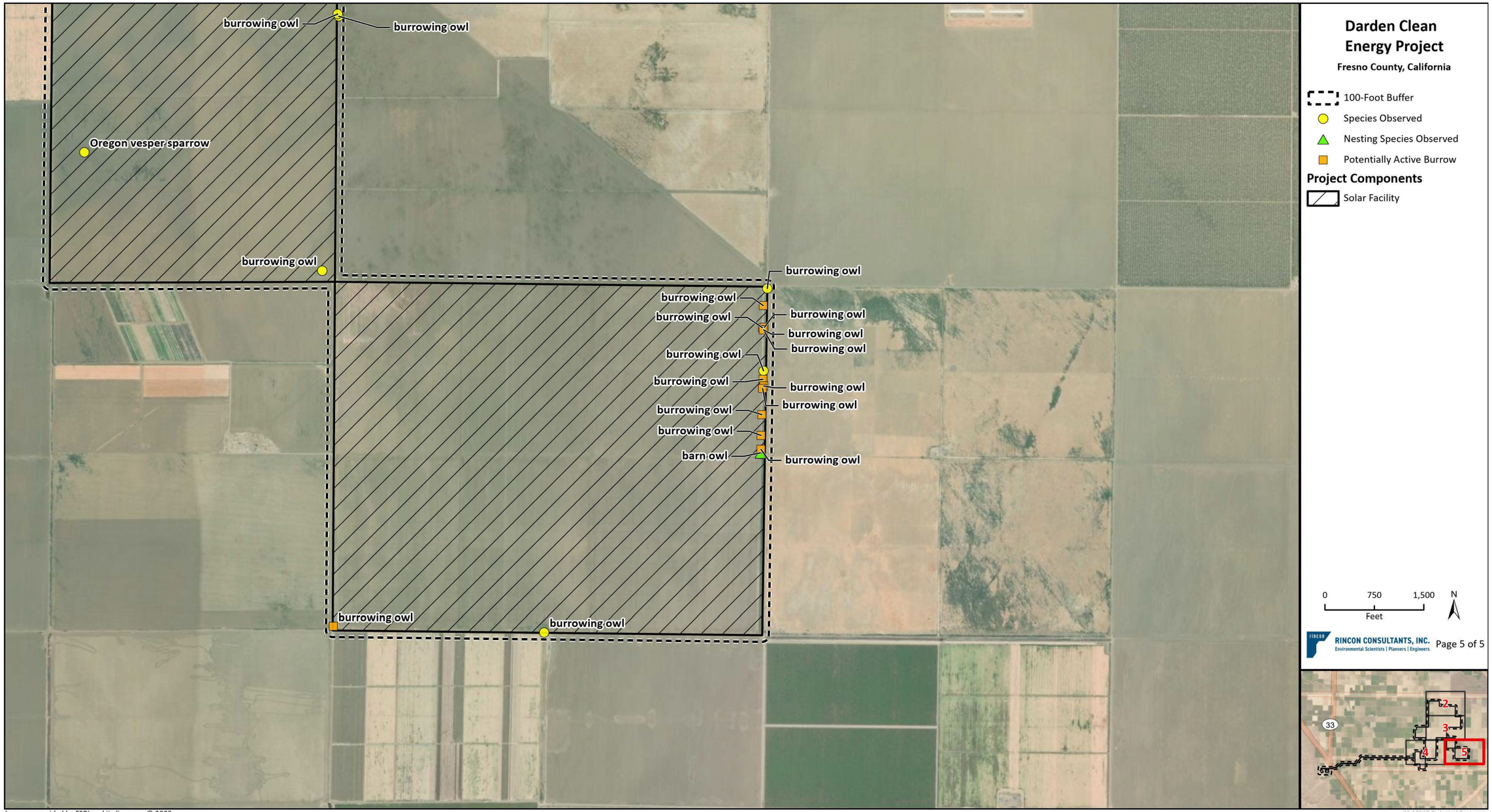
22-12530 Biological Resources
Fig 5.12-4 Species Observed_no CNDDB

Figure 5.12-3e Observed Wildlife Species in the Project Site (Mapbook Page 5)



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5.12.1.3 Sensitive Biological Resources

This section discusses special-status species and sensitive biological resources observed in the BSA and evaluates the potential for the BSA to support additional sensitive biological resources. For the purposes of the BRA and this analysis, sensitive biological resources, including sensitive or special-status species, are those that meet the criteria defined by California Energy Commission (CEC) in Appendix B, requirement 13(A) inclusive of:

- Areas of Critical Environmental Concern as defined by 20 CCR Section 1201(c) (formerly 1201(d)), including but not limited to, wildlife refuges, wetlands, thermal springs, endangered species habitats, and areas recognized by the California Natural Area Coordinating Council and the Governor's Office of Planning and Research.
- Species of Special Concern, as defined by 20 CCR Section 1201(t) (formerly 1201(u)), including but not limited to species designated pursuant to state and federal law and those rare and endangered plant species recognized by the Smithsonian Institution or the California Native Plant Society.
- Species and habitats identified by local, state, and federal agencies as needing protection, including but not limited to those identified by the California Natural Diversity Database (CNDDB), or where applicable, in Local Coastal Programs or in relevant decisions of the California Coastal Commission
- Species listed under state or federal Endangered Species Acts
- Species identified as state Fully Protected
- Species covered by Migratory Bird Treaty Act (MBTA)
- Species receiving consideration during environmental review under California Environmental Quality Act (CEQA) Guidelines 14 California Code of Regulations (CCR) Section 15380
- Locally significant species that are rare or uncommon in a local context such as county or region or is so designated in local or regional plans, policies, or ordinances
- Plant species listed as rare under the California Native Plant Protection Act
- Established native resident or migratory wildlife corridors or wildlife nursery sites

Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB and other sources, species occurrence records from other sites in the vicinity of the BSA, previous reports for the Project, and the results of surveys of the BSA. The potential for each special-status species to occur in the BSA was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on the site if present (e.g., oak trees).
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential**. Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species

requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

- **High Potential**. All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present**. Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

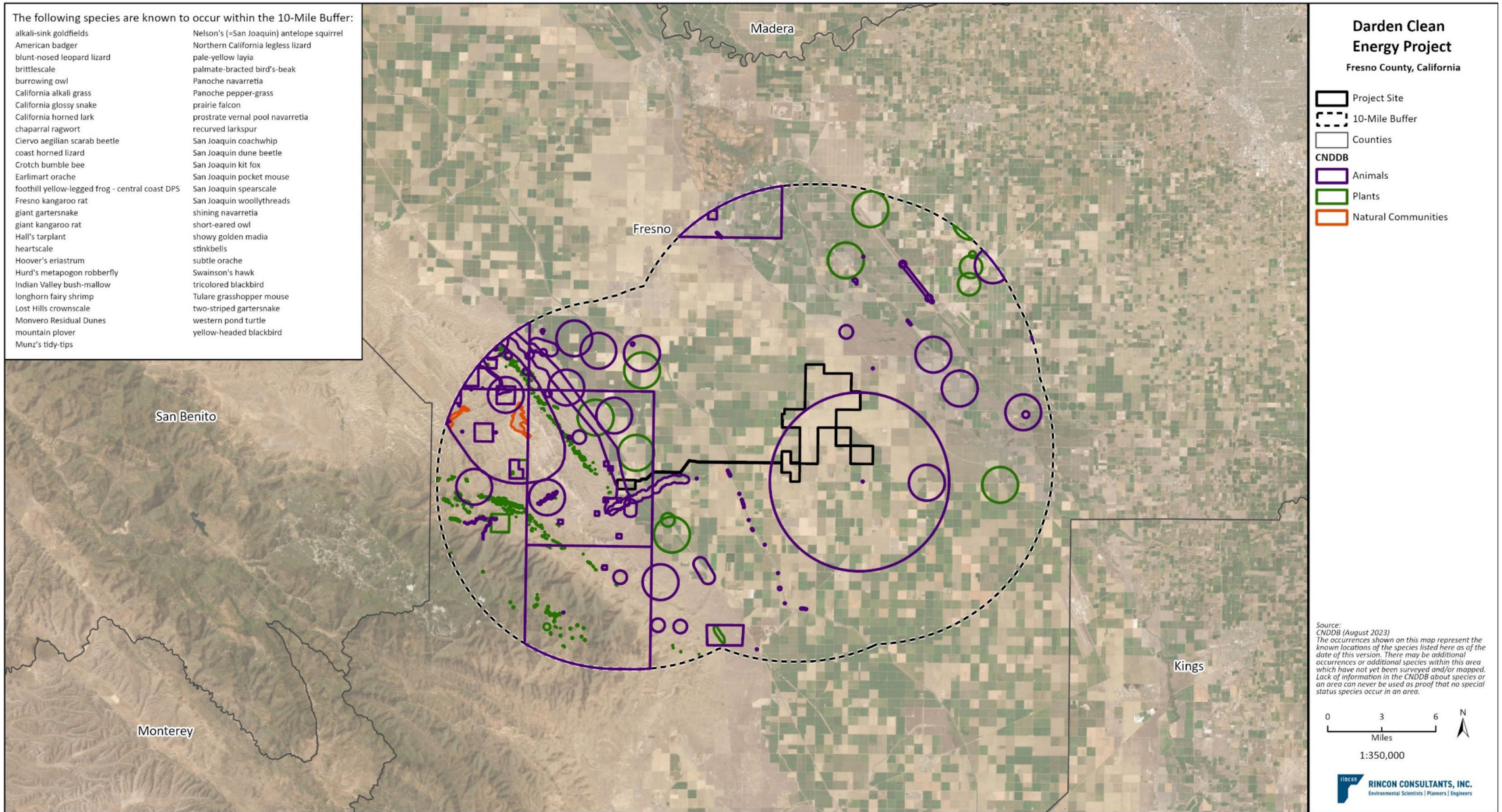
Special-Status Species

The list of special-status plant and wildlife species known to occur within 10 miles of the Project site resulting from the literature review is in Appendix Q-2 of the BRA (Appendix Q). Species known to occur within 1 mile of the solar facility location, Options 1 and 2 step-up substation, BESS, and green hydrogen component locations, alternate green hydrogen component location, and the utility switchyard location, and within 1,000 feet of the gen-tie line corridor are shown in Confidential Appendix R. An overview figure of these findings is depicted in Figure 5.12-4.

Special-Status Plant Species

The evaluation of special-status plant species with potential to occur within the BSA included 54 species known to occur in the region (Appendix Q-2 of the BRA [Appendix Q]; Confidential Appendix R). Fifty-three of those species have specific habitat requirements associated with mountains, forest, woodland, streams, and/or elevation ranges not present in the BSA. One special-status plant species, Lost Hills crownscale (*Atriplex coronate* var. *vallicola*) that was previously documented within 1 mile of the BSA is discussed in detail in the BRA. This species is not expected to occur within the BSA due to ongoing agricultural disturbance.

Figure 5.12-4 CNDDB Potential to Occur Within 10 Miles of Project Site



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Special-Status Wildlife Species

Rincon evaluated 49 species known to occur in the region (Appendix Q). Of those, 31 species are not expected to occur in the BSA based on the absence of suitable habitat, three have a low potential to occur, two have a moderate potential to occur, and 13 are considered present (individuals or recent sign observed on-site) (Table 5.12-1).

Table 5.12-1 Special-status Wildlife Species Documented in or with the Potential to Occur within the BSA

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Potential to Occur
Reptiles			
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	--/--/SSC	Low Potential
Birds			
tricolored blackbird	*Agelaius tricolor*	--/ST/SSC	Low Potential (foraging), No Potential (nesting)
golden eagle	*Aquila chrysaetos*	--/--/FP	Present (foraging), No Potential (nesting)
burrowing owl	*Athene cunicularia*	--/--/SSC	Present (nesting, foraging)
ferruginous hawk	*Buteo regalis*	--/--/WL	Present (winter migrant)
Swainson's hawk	*Buteo swainsoni*	--/ST/--	Present (nesting, foraging)
northern harrier	*Circus hudsonius*	--/--/SSC	Present (foraging), No Potential (nesting)
mountain plover	*Choradrius montanus*	--/--/SSC	Present (winter migrant)
white-tailed kite	*Elanus luecurus*	--/--/FP	Present (foraging), Low Potential (nesting)
California horned lark	*Eremophila alpestris actia*	--/--/WL	Present (foraging, nesting)
prairie falcon	*Falco mexicanus*	--/--/WL	Present (foraging), No Potential (nesting)
California condor	*Gymnogyps californianus*	FE/SE/--	Low Potential (foraging), No Potential (nesting)
Loggerhead shrike	*Lanius ludovicianus*	--/--/SSC	Present (foraging), No Potential (nesting)
Oregon vesper sparrow	*Pooecetes framineus affinus*	--/--/SSC	Present (winter migrant)
yellow warbler	*Setophaga petechia*	--/--/SSC	Present (migration)
yellow-headed blackbird	*Xanthocephalus xanthocephalus*	--/--/SSC	Moderate Potential (nesting, foraging)
Mammals			
American badger	*Taxidea taxus*	--/--/SSC	Present
San Joaquin kit fox	*Vulpes macrotis mutica*	FE/ST/--	Moderate Potential

FE=Federally Endangered
FT=Federally Threatened
FC=Federal Candidate
FD=Federal Delisted
FPE=Federally Proposed for Listing as Endangered
SE=State Endangered
ST=State Threatened
SCE=State Candidate Endangered
FP = CDFW Fully Protected
SSC = CDFW Species of Special Concern
WL = CDFW Watch List
Source: California Natural Diversity Database (CNDDB) (Fresno County), May 2021

Species that occur or potentially occur within specific project components are summarized below. The BRA includes detailed discussions of each species' habitat requirements, occurrences within the vicinity of the BSA, and presence of suitable habitat within the BSA.

SOLAR FACILITY, STEP-UP SUBSTATION, AND GEN-TIE

The solar facility, the gen-tie line ROW, and both Option 1 and 2 step-up substation component locations contain suitable nesting habitat for:

- Burrowing owl
- Swainson's hawk
- California horned lark (*Eremophila alpestris actia*)

The solar facility location contains suitable nesting habitat for yellow-headed blackbird (*Xanthocephalus xanthocephalus*).

The solar facility, the gen-tie line ROW, and Options 1 and 2 step-up substation component locations contain suitable foraging habitat for the species above and the following species:

- Tricolored blackbird (*Agelaius tricolor*)
- Golden eagle (*Aquila chrysaetos*)
- Ferruginous hawk (*Buteo regalis*)
- Mountain plover (*Charadrius montanus*)
- Northern harrier (*Circus hudsonius*)
- White-tailed kite (*Elanus luecurus*)
- Prairie falcon (*Falco mexicanus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Oregon vesper sparrow (*Pooecetes framineus affinus*)
- Yellow warbler (*Setophaga petechia*)

The solar facility, the gen-tie line ROW, and Options 1 and 2 substation component locations contain marginal foraging habitat for California condor (*Gymnogyps californianus*).

Suitable habitat for American badger (*Taxidea taxus*) is present throughout all portions of these Project component locations.

BESS

The Options 1 and 2 BESS component locations contain suitable foraging habitat for:

- Tricolored blackbird
- Golden eagle
- Burrowing owl
- Ferruginous hawk
- Swainson's hawk
- Mountain plover
- Northern harrier
- White-tailed kite

- California horned lark
- Prairie falcon
- Loggerhead shrike
- Oregon vesper sparrow
- Yellow-headed blackbird

The Options 1 and 2 BESS component locations contain marginal foraging habitat for California condor. These areas also have suitable habitat for American badger.

GREEN HYDROGEN FACILITY

The Options 1 and 2 green hydrogen component locations are within 0.5 mile of Swainson's hawk nests that were active in 2023.

The Options 1 and 2 green hydrogen component locations contain suitable foraging habitat for:

- Tricolored blackbird
- Golden eagle
- Burrowing owl
- Ferruginous hawk
- Swainson's hawk
- Mountain plover
- Northern harrier
- White-tailed kite
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Oregon vesper sparrow
- Yellow-headed blackbird

The Options 1 and 2 green hydrogen component locations contain marginal foraging habitat for California condor. These areas also have suitable habitat for American badger.

California ground squirrel burrows located predominantly around the edges of the alternate green hydrogen component location comprise suitable nesting and wintering habitat for burrowing owl at this Project component location.

The alternate green hydrogen component location contains suitable foraging habitat for:

- Tricolored blackbird
- Golden eagle
- Ferruginous hawk
- Swainson's hawk
- Mountain plover
- Northern harrier
- White-tailed kite

- California horned lark
- Prairie falcon
- Loggerhead shrike
- Oregon vesper sparrow

This Project component location also has suitable habitat for American badger.

UTILITY SWITCHYARD

The utility switchyard location contains moderately suitable habitat for:

- San Joaquin kit fox (Appendix Q-6 of the BRA [Appendix Q])

Habitat in the utility switchyard location is low-quality due to the presence of an orchard that provides limited habitat for prey species and their burrows for:

- San Joaquin coachwhip (*Masticophis flagellum ruddocki*)
- burrowing owl (foraging)
- American badger

There is low-quality foraging habitat in the utility switchyard location for:

- Golden eagle
- Prairie falcon

Sensitive Natural Communities and Critical Habitat

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. Vegetation rarity ranking is based on a rank calculator developed by NatureServe. According to the CDFW Vegetation Program, alliances with state ranks of S1-S3, as well as certain additional associations specifically noted as sensitive in the list, are considered to be imperiled, and thus, potentially of special concern. Sensitive natural communities and USFWS-designated Critical Habitat do not occur within the BSA; therefore, they do not occur within any Project component locations.

Jurisdictional Waters and Wetlands

Aquatic resources delineated within the jurisdictional study area (Project site and a 250-foot buffer) were reviewed and evaluated for a preliminary determination of jurisdiction. The BRA includes a map set of all delineated features, a table of the features listed by unique ID with their linear feet and acreages, representative photographs of the various types of features with detailed description, and Wetland Sample Point and Ordinary High Water Mark data sheets. For purposes of this Application, basins are manmade features designed to collect and store water in a static location. Ditches and canals are manmade linear features designed to convey flowing water and are typically culverted at one or both ends; ditches are under 15 feet in width, canals are wider and situated in-line with flow through from and to smaller ditches at each end.

The jurisdictional study area contains numerous manmade agricultural ditches, canals, and excavated basins. Aside from those specifically discussed in the following sections below, the remaining features have been determined to be either not jurisdictional or exempt from permitting procedures for the below-listed agencies under the following criteria:

- USACE: The solar facility and step-up substation component are located within an isolated system of interconnected ditches and basins, which were constructed from uplands and do not support a relatively permanent flow of surface water. Basins that may meet the definition of wetlands are isolated. Based on current USACE regulations, consistent with the recent *Sackett vs. Environmental Protection Agency* United States Supreme Court Case, these features are not federally jurisdictional.
- RWQCB: The site's manmade irrigation basins are not waters of the State by definition pursuant to Sections II.3 and II.3.d.v. of the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (the Procedures; SWQCB 2021) because they are manmade ("artificial") features that are less than one acre in size and/or constructed and maintained for agricultural crop irrigation or stock watering. The site's ditches are not subject to the Procedures pursuant to Section IV.D.2.c of the Procedures which exempts agricultural ditches in most cases. This exemption does not limit the SWRCB's authority to regulate discharges to the ditches under the Porter Cologne Water Quality Control Act; however, no discharge into these features is proposed as part of the project. If discharges were proposed, they would potentially be subject to the SWRCB's permitting authority but would not require compliance with the Procedures.
- CDFW: The on-site features are manmade and have not acquired the characteristics of natural waterways and are therefore assumed to not be jurisdictional by the CDFW (CDFG 1988).

The owners and tenants of the agricultural lands actively reconfigure on-site drainages by filling and reconstructing irrigation ditches, canals, and basins as needed to support agricultural operations. Many ditches and basins, some identified during desktop review of April 21, 2021, aerial imagery (Google Earth 2023) and some identified during the reconnaissance surveys in December 2022 were no longer present at the time of the delineation survey. Minor ditches such as v-ditches, created to hold irrigation piping or formed during road grading, were generally not mapped due to the changing and non-jurisdictional nature of these features; however, one pipe ditch (AD-4) was mapped and included in the BRA (Appendix Q-10, Photo 10 of the BRA [Appendix Q]) as an example of the type.

Solar Facility, Step-Up Substation, and Gen-Tie

Two potentially jurisdictional aquatic resources were identified within the vicinity of the solar facility and step-up substation project component locations, or are crossed by the gen-tie line ROW, which are described in detail below:

CALIFORNIA AQUEDUCT

The gen-tie line crosses the California Aqueduct, an aquatic resource that is potentially jurisdictional to the USACE, RWQCB, and CDFW, as it is a relatively permanent stream providing habitat to animals.

CANTUA CREEK

Cantua Creek is an intermittent creek that originates in the hills west of the jurisdictional study area and flows to the east-northeast roughly parallel to the gen-tie line and outside the jurisdictional study area for most of its length, ranging from 0.25- to 0.5-mile south of the jurisdictional study area. Approximately 0.6-mile west of the California aqueduct Cantua Creek enters the jurisdictional study area buffer area approximately 200-feet south of the gen-tie line corridor and runs along the

south side of West Harlan Avenue for approximately 0.25 mile, then terminates where it sinks into the Valley floor. Cantua Creek within the jurisdictional study area is channelized between levees. The stream has OHWM indicators and riparian vegetation is present (see Appendix Q-10, Photos 1-5 of the BRA [Appendix Q]). The creek is considered potentially jurisdictional to RWQCB and CDFW as a streambed and a water of the State. Because Cantua Creek is isolated, lacking connection to any traditionally navigable waters or their tributaries, the creek is considered non-jurisdictional to the USACE.

BESS

No potentially jurisdictional aquatic resources were identified within the vicinity of the Options 1 and 2 BESS component locations.

Green Hydrogen Facility

No potentially jurisdictional aquatic resources were identified within the vicinity of the Option 1, Option 2, or Alternate locations. The Alternate green hydrogen component location is less than a mile, but more than 250 feet north of Cantua Creek.

Utility Switchyard

Four ephemeral swales (ES-1 through ES-4) and impoundments of two of the swales (Impoundment 1 and 2) are present west of the utility switchyard location, within the buffer area of the jurisdictional study area but more than 250 feet from the site footprint. The swales are natural features formed in the draws of the hillsides and are considered potentially jurisdictional to RWQCB and CDFW as waters of the State. Because the impoundments are manmade and used for stock watering they do not meet the SWRCB Procedures' definition of waters of the State under Sect II.3.d.v. Stock ponds are part of agricultural operations and are regularly maintained. Therefore, the impoundments are considered RWQCB and CDFW non-jurisdictional. Ephemeral features are not considered USACE jurisdictional and furthermore none of these features have connectivity to traditional navigable waters or their tributaries. Thus, the features are also not federally jurisdictional. The utility switchyard location is less than a mile, but more than 250 feet north of Cantua Creek.

Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Habitats within a linkage are not necessarily the same as those being linked. Rather, the linkage needs only contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species during periods of movement among areas of suitable habitat. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending on the species, a linkage may require specific minimum physical characteristics (such as rock outcroppings, vernal pools, specific vegetation cover, etc.) to function as an effective wildlife corridor, and allow those species to traverse the linkage. For

highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a relatively short period of time.

The CDFW BIOS website (CDFW 2023c) and the California Essential Habitat Connectivity Project: A Strategy for Conserving Connected California (Spencer et al. 2010) were reviewed for wildlife movement information. The BSA is not located within an identified wildlife movement corridor or linkage (CDFW 2023c, Spencer et al. 2010). The BSA does not contain any documented wildlife movement corridors. However, a California Essential Connectivity Area and Natural Landscape Block occurs adjacent to the western boundary of the BSA within the Panoche Hills (CDFW 2023c). Generally, habitat within the Panoche Hills consists of valley and foothill grassland and differs greatly from the agricultural land uses of the valley floor within the BSA where the Project site is located. None of the Project component locations contain identified wildlife corridors or habitat linkages for wildlife movement. The overall Project site and surrounding lands do not contain any natural landscape blocks and are unlikely to function as local or regional wildlife corridors.

Resources Protected by Local Policies and Ordinances

Fresno County General Plan Policy OS-A.18 requires that natural watercourses be integrated into new development and the buffer areas between waterways and urban development be provided. None of the Project component locations contain any natural watercourses; therefore, resources protected by local policies and ordinances are not present within the Project component locations.

Habitat Conservation Plans

There are no local, regional, or state conservation planning areas located within the BSA; therefore, local, regional, or state conservation planning areas are not present within any Project component locations.

5.12.2 Regulatory Setting

Regulated or sensitive resources studied and analyzed herein include special-status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, regionally protected resources (e.g., from county-wide Habitat Conservation Plans and Natural Community Conservation Plans), and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities.

A review of existing relevant LORS was conducted to understand the regulatory context for biological resource management surrounding the Project site. This a review of applicable federal, state, and local policies and regulations including, but not limited to the CEQA, Federal Endangered Species Act (ESA), Federal Clean Water Act, California Endangered Species Act (CESA), Fresno County's General Plan, and Fresno County Code of Ordinances. These are detailed in Section 5.12.5.

5.12.3 Impact Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of Project construction, operation and maintenance (O&M), and closure activities.

5.12.3.1 Methodology for Impact Evaluation

Impacts are defined as project-related activities that destroy, damage, alter, or otherwise affect biological resources. This may include injury or mortality to plant or wildlife species, effects on an animal's behavior (such as through harassment or frightening off an animal by construction noise), as well as the loss, modification, or disturbance of natural resources or habitats. Impacts are defined as either direct or indirect, and either permanent or temporary. This section includes a brief overview of the types of impacts analyzed in this section.

Direct impacts involve a direct physical change in the environment which is caused by and immediately related to the project. Direct impacts for this Project may include injury, death, and/or disturbance of special-status wildlife species, if present in the work areas or vicinity. Direct impacts from direct physical changes to the environment may also include dust, noise, and traffic from construction machinery, or the destruction of vegetation communities necessary for special-status species breeding, feeding, or sheltering. Direct impacts to plants can include crushing of plants, bulbs, or seeds where present in the impact areas.

Indirect impacts involve an indirect physical change in the environmental which is not immediately related to the project but is caused indirectly by the project. An indirect physical change is considered only for those that are reasonably foreseeable rather than a change that is speculative. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect impact. Specific examples for this Project may include activities that result in compacted soils or areas cleared of vegetation that, in the future, following completion of the Project, prevents wildlife from digging burrows, or facilitates site colonization by invasive species (particularly weedy plant species that outcompete native plant species) that over time negatively affect the local ecology. Other examples may include dust that drifts outside of Project disturbance areas and covers native plants, thereby decreasing their photosynthetic capacity.

Permanent impacts that result in the long-term or irreversible loss of biological resources are considered permanent. For example, construction of a new electrical substation, which would result in a large, developed, and fenced property where native vegetation may have existed before would be a permanent impact.

Temporary impacts to biological resources are those that are reversible over time, with or without implementation of mitigation measures. Examples include the generation of fugitive dust and noise during Project implementation, trimming or crushing vegetation that will regrow following Project completion, and removed vegetation that will be actively restored. These temporary impacts are anticipated to last during Project implementation and shortly thereafter; however, the biological resources are anticipated to return to baseline after Project completion.

5.12.3.2 Impact Evaluation Criteria

The following threshold criteria, as defined by the CEQA Environmental Checklist (Appendix G of the CEQA Guidelines), were used to evaluate potential impacts to biological resources. Based on these criteria, the Project would have a significant impact on biological resources if it would:

- 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

- 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- 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;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impact BIO-1

Threshold:	Would the project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special-Status Plant Species

Lost Hills Crownscale

Lost Hills crownscale is not expected to occur within any of the Project component locations closest to suitable grassland habitat for this species due to the high levels of disturbance in the utility switchyard location and lack of suitable habitat in the alternate green hydrogen component location.

DIRECT IMPACTS

No direct impacts are expected for Lost Hills crownscale as the species is not expected to occur within the Project component locations during construction, operation or closure.

INDIRECT IMPACTS

No indirect impacts are expected for Lost Hills crownscale as the species is not expected to occur within the Project component locations during construction, operation or closure.

Special-Status Wildlife Species

San Joaquin Coachwhip

There is a low potential for San Joaquin coachwhip to occur within the utility switchyard location. Burrows in the utility switchyard location could provide refugia for this species, but other cover is limited.

DIRECT IMPACTS

Direct impacts to San Joaquin coachwhip during construction, operation or closure could include injury or death as a result of individuals being crushed or buried by project vehicles, equipment, or displaced soil, entrapment of individuals in excavation areas, accidental destruction of active burrows by construction vehicles or equipment, or disturbance of individuals by construction-related noise and vibration. Direct impacts to San Joaquin coachwhip could be considered significant under CEQA.

INDIRECT IMPACTS

Potential indirect impacts to San Joaquin coachwhip during construction, operation or closure could include the introduction or spread of invasive plant species or fugitive dust that could degrade foraging habitat or refugia. Human activities and food waste may also pose threats by attracting opportunistic predators such as ravens, coyotes, and feral dogs to construction work areas. Indirect impacts to San Joaquin coachwhip could be considered significant under CEQA.

MITIGATION MEASURES

Direct and indirect impacts to San Joaquin coachwhip would be reduced to less than significant through implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3.

Burrowing Owl

Burrowing owls are considered present within the BSA and could potentially nest or forage within all Project component locations.

DIRECT IMPACTS

If burrowing owls are present in disturbance areas during construction, maintenance or closure activities, the species may be directly impacted through injury or mortality of individuals resulting from collisions with project vehicles or equipment; destruction of occupied burrows and/or active nest sites; and disturbance from increased vehicle traffic, noise at work sites, and human presence that could result in an interruption of normal behaviors or nest abandonment. The species may also be subject to direct impacts due to the loss or degradation of foraging habitat in work areas resulting from vegetation clearing or ground disturbance. Direct Impacts to burrowing owls would be considered significant under CEQA.

INDIRECT IMPACTS

The introduction or spread of invasive plants, fugitive dust, erosion, sedimentation, and the runoff of hazardous materials during construction, maintenance or closure could indirectly impact burrowing owl by decreasing habitat value. In addition, soil compaction resulting from construction activities may impede burrow creation by California ground squirrels. Indirect Impacts to burrowing owls would be considered significant under CEQA.

MITIGATION MEASURES

Direct impacts to burrowing owls would be avoided and minimized through implementation of Mitigation Measures BIO-1, BIO-3, and BIO-5 as presented in *Mitigation Measures*. Implementation of Applicant Proposed Measure (APM) BIO-1 (Swainson's Hawk Conservation Strategy; see full APM in Chapter 2, *Project Description*), which maintains foraging habitat and prey base for Swainson's

hawk through the implementation of a Vegetation Management Plan would also result in the preservation of burrowing owl habitat. Implementation of Mitigation Measure BIO-2, which requires limiting the spread of weeds and maintaining work areas free of trash or pets would avoid and minimize indirect impacts to burrowing owl. With the implementation of these Mitigation Measures, impacts to burrowing owl would be reduced to less than significant.

Swainson's Hawk

Five active Swainson's hawk nests have been recorded in the BSA (Figure 5.12-3a through Figure 5.12-3e), and the BSA supports approximately 30 suitable nest trees within the solar facility location. The species also has the potential to nest within 0.5 mile of all Project component locations. All Project component locations in the BSA contain suitable foraging habitat, except the utility switchyard and portions of the gen-tie corridor that contain habitat not suitable for foraging.

DIRECT IMPACTS

Potential direct impacts to Swainson's hawk include disturbance or human activity during construction, maintenance or closure that results in nest abandonment or failure, or if an individual is struck or otherwise injured or killed by Project vehicles or equipment. Temporary direct impacts would result from the loss of foraging habitat during construction. Permanent loss of foraging habitat would result from development of Project infrastructure including buildings, facilities, and solar panels. A total of approximately 4,818 acres of moderate quality foraging habitat would be unavailable at completion of Project construction (SBC 2023; Appendix Q-8 of the BRA). However, these direct impacts to foraging habitat would be considered less than significant based on the results of a foraging habitat analysis conducted by SBC (2023).

The SBC analysis identified 41 active Swainson's hawk nests within a study area defined by the Project site and a 10-mile buffer around the Project site (Swainson's hawk study area), and approximately 205,100 acres of suitable foraging habitat within the Swainson's hawk study area (approximately 55 percent of the study area). Accounting for typical home ranges and home range overlaps, those hawks were estimated to required approximately 106,850 acres of habitat to meet their foraging needs, with an estimated 98,250 acres of surplus foraging habitat available within the Swainson's hawk study area. Previous studies (summarized in Estep 2017) recommend a significance threshold that specifies if more than 30 percent of the surplus habitat is removed, the loss of Swainson's hawk foraging habitat is considered significant. As such, up to approximately 29,500 acres of foraging habitat could be impacted (i.e., 30 percent of the available 98,250 acres) before exceeding that 30 percent threshold. The Project would impact up to 4,818 acres of foraging habitat, substantially less than the 29,500 acres of surplus habitat that would constitute a significant impact; therefore, project-level direct impacts to Swainson's hawk foraging habitat would be less than significant (SBC 2023; Appendix Q-8 of the BRA [Appendix Q]).

INDIRECT IMPACTS

The introduction or spread of invasive plants, fugitive dust, erosion, sedimentation, and the runoff of hazardous materials during construction, maintenance or closure could indirectly impact foraging habitat for Swainson's hawk. The Project would impact up to 4,800 acres of foraging habitat, substantially less than the 29,500 acres of surplus habitat that would constitute a significant impact; therefore, project-level indirect impacts to Swainson's hawk foraging habitat would be less than significant (SBC 2023; Appendix Q-8 of the BRA).

MITIGATION MEASURES

Direct impacts to nesting Swainson's hawk would be avoided and minimized through implementation of APM BIO-1 (Swainson's Hawk Conservation Strategy; see full APM in Chapter 2, *Project Description*) and through implementation of Mitigation Measures BIO-1, BIO-7, and BIO-8 as presented in *Mitigation Measures*. Potential impacts to foraging habitat are considered less than significant without mitigation.

Golden Eagle

The BSA is outside the nesting range of golden eagle. One golden eagle was observed flying over the BSA (Figure 5.12-3a through Figure 5.12-3e). All Project component locations in the BSA contain suitable foraging habitat for golden eagle; the utility switchyard location provides low-quality foraging habitat.

DIRECT IMPACTS

Golden eagles would not be expected to rely on the Project component locations for breeding or wintering habitat, and their occurrence at the Project site would be incidental during migration or dispersal. Loss of foraging habitat would not jeopardize an individual's survival and it would be able to avoid direct impacts during construction activity. The construction, operation, and closure of the project would not result in significant impacts to golden eagle.

INDIRECT IMPACTS

No indirect impacts are expected for golden eagle from construction, operation, or closure of the Project as the species is not expected to substantially rely on the Project component locations for nesting or wintering habitat.

White-tailed Kite and Northern Harrier

White-tailed kite has a low potential to nest in suitable trees in the BSA and within 0.5 mile of the solar facility, Options 1 and 2 step-up substation, and gen-tie line component locations; the Options 1 and 2 BESS component locations; and the Options 1 and 2 green hydrogen component and alternate site locations. No nesting kites were documented during the Swainson's hawk nest surveys conducted at the Project site and within a 10-mile radius of the site.

Northern harrier is not expected to nest within any Project component locations, including the alternate green hydrogen component location. All Project component locations contain suitable foraging habitat for both species; however, the orchard within the utility switchyard location does not provide suitable foraging habitat.

DIRECT IMPACTS

Direct impacts to white-tailed kite include potential nest abandonment or failure as a result of construction noise and activity during Project construction, maintenance, or closure, or from the removal or trimming of nest trees during any of these project phases.

Direct impacts to northern harriers that may forage in or migrate through the BSA are not expected, as these non-nesting individuals would be able to avoid any sources of disturbance during construction, operation, or closure. White-tailed kite and northern harrier may be directly impacted by loss or degradation of foraging habitat; however, the loss of foraging habitat would not be

expected to jeopardize a local or regional population and would not be considered significant under CEQA, and therefore, impacts would be less than significant.

INDIRECT IMPACTS

The introduction or spread of invasive plants, fugitive dust, erosion, sedimentation, and the runoff of hazardous materials from Project construction, maintenance, or closure could indirectly impact foraging habitat for these species; however, there is no evidence that a potential reduction in the quality of a comparatively small amount of foraging habitat within the context of an abundance of foraging habitat within the southern San Joaquin Valley would jeopardize a local or regional population of white-tailed kite, and thus, would not be considered significant under CEQA. Therefore, impacts would be less than significant.

MITIGATION MEASURES

Direct impacts to white-tailed kite would be avoided and minimized through implementation of Mitigation Measures BIO-1, BIO-7, and BIO-8 as presented in *Mitigation Measures*. With the implementation of these Mitigation Measures, impacts to white-tailed kite would be less than significant.

California Condor

The federally and state endangered California condor has a low potential to move through or forage in the BSA, where it may be subject to impacts. Nesting California condors would not be impacted by the Project as no nesting habitat is present in the BSA.

DIRECT IMPACTS

California condors would be directly impacted in the unlikely event that an individual occurs in the Project site and is struck or otherwise injured by Project vehicles or equipment during construction, operation, or closure of the Project. The potential for impacts to individuals may be increased by carrion, construction debris, or micro-trash that attracts condors to work areas. Direct impacts to condor would be potentially significant.

INDIRECT IMPACTS

There is no evidence that the Project site, or agricultural crop lands in the Central Valley function as important foraging habitat for California condor. No indirect impacts to condor are expected during construction, operation, or closure of the Project.

MITIGATION MEASURES

Implementation of Mitigation Measure BIO-2, which includes removal of carrion from the Project site prior to construction and maintaining work areas free of trash would avoid attracting California condors to the Project area. With the implementation of this Mitigation Measure, impacts to California condor would be less than significant.

Ferruginous Hawk, Mountain Plover, and Oregon Vesper Sparrow

The BSA is outside the breeding range of the ferruginous hawk, mountain plover, and Oregon vesper sparrow. All Project component locations contain suitable foraging habitat for these species, except the utility switchyard location.

DIRECT IMPACTS

Direct impacts to ferruginous hawk, mountain plover, and Oregon vesper sparrow that may forage in Project work areas are not expected, as these non-nesting individuals would be able to avoid any sources of disturbance. These species may be directly impacted by loss or degradation of foraging habitat resulting from project construction, but those impacts would be reduced to less than significant with the habitat restoration and management to be conducted through the implementation of APM BIO-1.

INDIRECT IMPACTS

Project construction activities that introduce invasive plants, fugitive dust, erosion, and runoff during construction, operation, or closure could potentially degrade the quality of foraging habitat for ferruginous hawk, mountain plover, and Oregon vesper sparrow, but those impacts would be reduced to less than significant with the habitat restoration and management to be conducted through the implementation of the APM BIO-1.

MITIGATION MEASURES

Direct impacts to ferruginous hawk, mountain plover, and Oregon vesper sparrow would be avoided and minimized through implementation of Mitigation Measures BIO-1, BIO-7, and BIO-8. Direct and indirect impacts to foraging habitat would be avoided or minimized by BIO-2, which implements best management practices such as limiting the spread of weeds. With the implementation of these Mitigation Measures, impacts to ferruginous hawk, mountain plover, and Oregon vesper sparrow would be less than significant.

Tricolored Blackbird, California Horned Lark, Prairie Falcon, Loggerhead Shrike, Yellow Warbler, and Yellow-Headed Blackbird

Tricolored blackbird, loggerhead shrike, and yellow warbler are not expected to nest in the BSA due to the absence of sufficient suitable tall, dense vegetation or densely covered shrubs or low trees. The BSA also lacks suitable cliffs and bluffs for nesting prairie falcon. Tricolored blackbird has a low potential to forage within a few kilometers of known and potential roost sites, including the solar facility, Options 1 and 2 step-up substation and the eastern and western ends of the gen-tie line component locations; the Options 1 and 2 BESS component locations; and the Options 1 and 2 green hydrogen component, and alternate site locations. Trees and shrubs within the solar facility provide suitable foraging habitat for yellow warbler; all Project component locations in the BSA contain suitable foraging habitat for prairie falcon and loggerhead shrike.

Yellow-headed blackbird has a moderate potential to nest in vegetation adjacent to a freshwater wetland in the BSA within the solar facility location, and a moderate potential to forage elsewhere within the solar facility location. Open areas and agricultural fields for foraging California horned lark are present in all Project components. California horned lark could potentially nest in open areas that are undisturbed by agricultural activities within the solar facility, Options 1 and 2 step-up substation, Option 1 and 2 BESS, and the Options 1 and 2 and alternate green hydrogen component locations.

DIRECT IMPACTS

Direct impacts to tricolored blackbirds, prairie falcons, loggerhead shrikes, or yellow warblers that may forage in Project work areas are not expected, as these non-nesting individuals would be able

to avoid any sources of disturbance. Potential direct impacts to California horned lark and yellow-headed blackbird may include the destruction of nests during construction, maintenance, or closure as a result of vegetation clearing and reduced nesting success due to disturbance from Project activities. Direct impacts would be considered Significant under CEQA.

INDIRECT IMPACTS

The nesting habitat for California horned lark and yellow-headed blackbird may be subject to indirect impacts from invasive plants, fugitive dust, erosion, and runoff during construction, operation, or closure. Project activities may potentially degrade the quality of foraging habitat for California horned lark and yellow-headed blackbird, tricolored blackbird, prairie falcon, loggerhead shrike, and yellow warbler, but those impacts would be reduced to less than significant with the habitat restoration and management to be conducted through the implementation of APM BIO-1.

MITIGATION MEASURES

Direct and indirect impacts to California horned lark, tricolored blackbird, yellow-headed blackbird, prairie falcon, loggerhead shrike, and yellow warbler would be avoided and minimized through implementation of Mitigation Measure BIO-1, which includes a worker environmental awareness training and education program, Mitigation Measure BIO-7, which includes pre-construction surveys for nesting birds and raptors, and Mitigation Measure BIO-8, which requires establishment of avoidance buffers around active nest and monitoring until the nest is no longer active. Direct and indirect impacts to foraging habitat would be avoided or minimized by BIO-2, which requires implementation of best management practices such as limiting the spread of weeds. With the implementation of these Mitigation Measures, impacts to California horned lark, yellow-headed blackbird, tricolored blackbird, prairie falcon, loggerhead shrike, and yellow warbler would be less than significant.

American Badger

American badger is known to occur within the solar facility location (Figure 5.12-3a through Figure 5.12-3e) and could potentially occur in all other Project component locations in the BSA where prey species are present.

DIRECT IMPACTS

If American badgers are present in disturbance areas or on access roads during construction maintenance or closure, there is potential for direct impacts including injury or death resulting from vehicle collision, damage or destruction of occupied burrows, disturbance from construction noise/vibration, entrapment of individuals in excavation areas, and loss or degradation of foraging habitat. Pets (i.e., dogs) brought to work areas may harass or kill American badgers. Direct impacts may occur if disturbance at maternity dens resulting from construction noise/vibration or human presence negatively affects kit-rearing. Direct impacts to American badger would be considered significant under CEQA.

INDIRECT IMPACTS

American badgers may be indirectly impacted if the Project disrupts their movement, but such impacts would be temporary and minor. Human-caused food subsidies may attract badgers to disturbance areas during construction, operation, or closure. Dogs in work areas may spread canine distemper to American badger populations. These species may be indirectly impacted by impacts to

their habitat including the spread of invasive plants, fugitive dust, erosion, sedimentation, and runoff of hazardous materials. Additionally, soil compaction in work areas may reduce habitat for prey species, but those impacts would be reduced to less than significant with the habitat restoration and management to be conducted through the implementation of APM BIO-1.

MITIGATION MEASURES

Direct impacts to American badger would be avoided and minimized through implementation of Mitigation Measures BIO-1, BIO-3, and BIO-6. Implementation of APM BIO-1, which maintains foraging habitat and prey base for Swainson's hawk through the implementation of a Vegetation Management Plan; and BIO-2, which requires implementation of best management practices such as limiting the spread of weeds and maintaining work areas free of trash or pets, would also benefit American badger.

With the implementation of the Mitigation Measures listed above, direct impacts to American badger would be less than significant.

San Joaquin Kit Fox

San Joaquin kit fox is not expected to occur within any of the Project component locations due to the lack of suitable habitat; however, San Joaquin kit fox may disperse through or forage within moderately suitable habitat in the utility switchyard location and in the portion of the gen-tie line corridor adjacent to the utility switchyard.

DIRECT IMPACTS

If San Joaquin kit foxes are present in disturbance areas or on access roads during construction, there is potential for direct impacts including injury or death resulting from vehicle collision or entrapment of individuals in excavation areas. Direct impacts to San Joaquin kit fox would be considered significant under CEQA.

INDIRECT IMPACTS

Human-caused food and water subsidies may attract San Joaquin kit foxes to disturbance areas during Project construction, putting individuals at risk of direct impacts. Because the Project site is not occupied and does not provide suitable habitat for San Joaquin kit fox, no other indirect impacts would be expected.

MITIGATION MEASURES

Direct impacts to San Joaquin kit fox would be avoided and minimized through implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4. With the implementation of these Mitigation Measures, direct impacts to San Joaquin kit fox would be less than significant.

Birds Protected by the California Fish and Game Code and MBTA

Common bird species and their nests were observed throughout the BSA and vicinity (Figure 5.12-3a through Figure 5.12-3e), including many species that occur as residents and breed in the Central Valley. Native birds protected by the CFGC and the MBTA could potentially nest in all Project areas within the BSA. Construction activity has the potential to directly impact nesting birds through the destruction of nests during vegetation clearing and reduced nesting success due to disturbance from Project activities; or indirectly through impacts to nesting habitat or degradation of foraging habitat

from invasive plants, fugitive dust, erosion, and runoff. Impacts to nesting birds protected under the CFGC and MBTA would be reduced to a less-than-significant level through implementation of Mitigation Measure BIO-7, which includes preconstruction nesting bird surveys and protective nest buffers, and Mitigation Measure BIO-8, which includes establishment of nest buffers. Indirect impacts would be reduced to a less-than-significant level by implementation of BIO-2, which requires implementation of best management practices such as limiting the spread of weeds.

Summary of Mitigation Measures for Special-Status Animal Species by Project Component

A summary of direct and indirect impacts to each special-status animal species within each Project component is summarized below, followed by a list of Mitigation Measures to avoid, minimize, or mitigate impacts to less than significant levels.

Solar Facility, Step-Up Substation, and Gen-Tie

Direct and indirect impacts described under *Special-Status Wildlife Species* would potentially result from the solar facility, Options 1 and 2 step-up substation, and gen-tie line Project components for tricolored blackbird, burrowing owl, ferruginous hawk, Swainson's hawk, mountain plover, northern harrier, white-tailed kite, California condor, California horned lark, prairie falcon, yellow-headed blackbird, loggerhead shrike, Oregon vesper sparrow, yellow warbler, and American badger.

In the gen-tie line corridor specifically, new poles and transmission lines could result in a risk of collisions, line strikes or electrocution to special-status and non-special-status migratory birds in the future. As detailed in Chapter 2, *Project Description*, to avoid potential line strikes or electrocution to birds, the Project transmission facilities would be designed consistent with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee [APLIC] 2006) where feasible. Transmission facilities would also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012* (APLIC 2012). Design consistency with APLIC would reduce any collision or electrocution impacts to a less-than-significant level.

Measures required to reduce impacts to a less-than-significant level in these Project component locations include:

- APM BIO-1: nest preservation, tree planting, and artificial nest installation for Swainson's hawks; implementation of a Vegetation Management Plan
- Mitigation Measure BIO-1: worker environmental awareness training and education program
- Mitigation Measure BIO-2: construction best management practices
- Mitigation Measure BIO-3: preconstruction surveys for special-status species and construction monitoring where these species have potential to occur
- Mitigation Measure BIO-5: avoidance and passive relocation measures for burrowing owl
- Mitigation Measure BIO-6: avoidance and passive relocation measures for American badger
- Mitigation Measure BIO-7: preconstruction surveys for nesting birds and raptors
- Mitigation Measure BIO-8: establishment of avoidance buffers around active nests and monitoring until the nest is no longer active

BESS

Direct and indirect impacts described in *Special-Status Wildlife Species* would potentially apply to the Options 1 and 2 BESS component locations for tricolored blackbird, burrowing owl, ferruginous hawk, Swainson's hawk, mountain plover, northern harrier, white-tailed kite, California horned lark, prairie falcon, loggerhead shrike, Oregon vesper sparrow, yellow-headed blackbird, and American badger.

Measures required to reduce impacts to a less-than-significant level in these Project component locations include:

- APM BIO-1: nest preservation, tree planting, and artificial nest installation for Swainson's hawks; implementation of a Vegetation Management Plan
- Mitigation Measure BIO-1: worker environmental awareness training and education program
- Mitigation Measure BIO-2: construction best management practices
- Mitigation Measure BIO-3: preconstruction surveys for special-status species and construction monitoring where these species have potential to occur
- Mitigation Measure BIO-5: avoidance and passive relocation measures for burrowing owl
- Mitigation Measure BIO-6: avoidance and passive relocation measures for American badger
- Mitigation Measure BIO-7: preconstruction surveys for nesting birds and raptors
- Mitigation Measure BIO-8: establishment of avoidance buffers around active nests and monitoring until the nest is no longer active

Green Hydrogen Facility

Direct and indirect impacts described in *Special-Status Wildlife Species* would potentially apply to the Options 1 and 2 green hydrogen component locations for tricolored blackbird, burrowing owl, ferruginous hawk, Swainson's hawk, mountain plover, northern harrier, white-tailed kite, California condor, California horned lark, prairie falcon, loggerhead shrike, Oregon vesper sparrow, yellow-headed blackbird, and American badger.

Direct and indirect impacts described in *Special-Status Wildlife Species* would potentially apply to the alternate green hydrogen component location for tricolored blackbird, burrowing owl, ferruginous hawk, Swainson's hawk, mountain plover, northern harrier, white-tailed kite, California horned lark, prairie falcon, loggerhead shrike, Oregon vesper sparrow, and American badger.

Measures required to reduce impacts to a less-than-significant level in these Project component locations include:

- APM BIO-1: nest preservation, tree planting, and artificial nest installation for Swainson's hawks; implementation of a Vegetation Management Plan
- Mitigation Measure BIO-1: worker environmental awareness training and education program
- Mitigation Measure BIO-2: construction best management practices
- Mitigation Measure BIO-3: preconstruction surveys for special-status species and construction monitoring where these species have potential to occur
- Mitigation Measure BIO-5: avoidance and passive relocation measures for burrowing owl
- Mitigation Measure BIO-6: avoidance and passive relocation measures for American badger
- Mitigation Measure BIO-7: preconstruction surveys for nesting birds and raptors

- Mitigation Measure BIO-8: establishment of avoidance buffers around active nests and monitoring until the nest is no longer active

Utility Switchyard

Direct and indirect impacts described in *Special-Status Wildlife Species* to foraging habitat for prairie falcon would not be considered significant due to the availability of higher quality foraging habitat elsewhere in the BSA. Direct and indirect impacts to San Joaquin coachwhip, American badger and San Joaquin kit fox in the utility switchyard would be reduced to a less-than-significant level through implementation of the following Mitigation Measures:

- BIO-1: worker environmental awareness training and education program
- BIO-2: construction best management practices
- BIO-3: preconstruction surveys for special-status species and construction monitoring where these species have potential to occur
- BIO-4: avoidance measures for San Joaquin kit fox
- BIO-5: avoidance and passive relocation measures for burrowing owl
- BIO-6: avoidance and passive relocation measures for American badger

Mitigation Measures

BIO-1 Construction Worker Environmental Awareness Training and Education Program

Prior to any activity on-site and for the duration of construction activities, all personnel at the Project area (including laydown areas and/or transmission routes) shall attend a Worker Environmental Awareness Program (WEAP) developed and presented by the Qualified Biologist or authorized designee. New personnel shall receive WEAP training on the first day of work and prior to commencing work on the site. Any employee responsible for the O&M or decommissioning of the Project facilities shall also attend an O&M-specific WEAP training.

1. The program shall include information on the life history of the San Joaquin kit fox, Swainson's hawk, burrowing owl, American badger, San Joaquin coachwhip, and nesting birds as well as other wildlife and plant species that may be encountered during construction activities.
2. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
3. The program shall include the contact information for the project biologist and on-site environmental compliance manager.
4. The program shall provide information on how and where to bring injured animals for treatment in the case any animals are injured the Project area.
5. An acknowledgement form signed by each worker indicating that WEAP training has been completed shall be kept on record.
6. A sticker shall be placed on hard hats indicating that the worker has completed the WEAP training. Construction workers shall not be permitted to operate equipment within the

construction areas unless they have attended the WEAP training and are wearing hard hats with the required sticker.

7. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms will be made available upon agency request.

BIO-2 Construction Best Management Practices

The following best management practices shall be implemented during construction:

- Designation of a 15 mile per hour speed limit in all construction areas.
- All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible.
- The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the project.
- Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from any sensitive resources as identified by a Qualified Biologist. Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site.
- Drip pans shall be placed under all stationary vehicles and mechanical equipment that show signs of leaking or discharging lubricants or other fluids.
- All carrion shall be removed from the Project site prior to and during construction.
- All trash, including carrion, shall be placed in sealed containers and shall be removed from the project site a minimum of once per week.
- No pets are permitted on the Project site during construction.

BIO-3 Preconstruction Surveys for Special-Status Species

Preconstruction surveys for burrowing species shall be conducted by a Qualified Biologist for the presence of San Joaquin kit fox, American badger, and burrowing owl prior to commencement of construction activities in all areas with potential to support these species. This survey shall be conducted no more than 30 days prior to ground disturbing activities without prior agency approval. The surveys shall be conducted in areas of suitable habitat for each species. Surveys shall conform to USFWS guidelines for San Joaquin kit fox, CDFW guidelines for burrowing owl, and to industry standards for American badger.

Where special-status species habitat (e.g., burrows or nest trees and vegetation) are known to occur and there is a potential for significant impacts, Qualified Biologist shall monitor construction activities to ensure that impacts to special-status species are avoided and minimized.

BIO-4 Measures for San Joaquin Kit Fox

In areas of the Project site where San Joaquin kit fox potentially occur (the utility switchyard location), the following measures shall be implemented by a Qualified Biologist:

- Pre-construction surveys for San Joaquin kit fox no more than 30 days prior to ground disturbance
- Construction activity monitoring

- San Joaquin kit fox dens are not expected to occur in project work areas. If San Joaquin kit fox occurs in the Project site, work within 500 feet of the animal shall be halted until the animal leaves the area, as determined by the Qualified Biologist.

BIO-5 Measures for Burrowing Owl

If suitable burrows for burrowing owls are found during preconstruction surveys on the Project site; burrowing owl occupancy shall be determined through up to three additional focused surveys on potential burrows during the morning and/or evening survey windows as defined in the *Staff Report on Burrowing Owl Mitigation* (Appendix B in CDFG 2012). If the burrows are determined to be unoccupied, they shall be hand excavated by a Qualified Biologist in the same manner as described under B-1(g) in CDFG (2012). If occupied burrowing owl burrows are confirmed prior to construction, the avoidance measures described below shall be implemented.

Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a Qualified Biologist verifies, through noninvasive methods, that either (1) the birds have not begun egg-laying and incubation, (2) a previously active nest has failed and re-nesting is highly unlikely, or (3) all juveniles from the occupied burrow are foraging independently and capable of independent survival. Owls present after February 1 shall be assumed to be nesting unless evidence indicates otherwise. Nest-protection buffers described below shall remain in effect until August 31 or, based upon monitoring evidence, until the nest has failed, or all juvenile owls are foraging independently as determined by a Qualified Biologist.

Site-specific, no-disturbance buffer zones shall be established and maintained between Project activities and occupied burrows, using the distances recommended in the CDFW guidelines (CDFG 2012). Typical avoidance buffer distances for burrowing owl range from 100 meters (330 feet) to 250 meters (825 feet) depending on project activity, line of sight and local topography, during the breeding season (February 1 to August 31). During the non-breeding (winter) season (September 1 to January 31), typical avoidance buffers range from 50 meters (165 feet) to 100 meters (330 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.

The appropriateness of using reduced buffer distances or burrow-specific buffer distances shall be established on a case-by-case basis by a Qualified Biologist who may consult with CDFW, and shall depend on existing conditions (e.g., vegetation/topographic screening and current disturbance regimes). If necessary, buffer distances shall be carefully reassessed and relaxed or modified, based on construction schedule and activities (e.g., increased or intensified construction activities), by a Qualified Biologist who may consult with CDFW. The buffer zones shall be clearly delineated by highly visible orange construction fencing (or similar), which shall be maintained in good condition through construction of the Project or until construction activities are no longer occurring in the vicinity of the burrow.

If burrowing owl burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where burrows can be shown as conclusively not an active nesting burrow, a Qualified Biologist may passively relocate burrowing owls found within construction areas. Prior to passively relocating burrowing owls, a Burrowing Owl Exclusion Plan shall be prepared by a Qualified Biologist in accordance with Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

The biologist shall accomplish such relocations using one-way burrow doors installed and left in place for at least three nights so owls exiting their burrows will not be able to re-enter. Then,

immediately before the start of construction activities, the biologists shall remove all doors and excavate the burrows to ensure that no animals are present in the burrow. The excavated burrows shall then be backfilled. To prevent evicted owls from occupying other burrows in the impact area, the biologist shall, before eviction occurs, (1) install one-way doors and backfill all potentially suitable burrows within the impact area, and (2) install one-way doors in all suitable burrows located within approximately 50 feet of the active burrow, then remove them once the displaced owls have settled elsewhere. When temporary or permanent burrow-exclusion methods are implemented, the following steps shall be taken:

Prior to excavation, a Qualified Biologist shall verify that evicted owls have access to multiple, unoccupied, alternative burrows, located nearby (within 250 feet) and outside of the projected disturbance zone. If no suitable alternative natural burrows are available for the owls, then, for each owl that is evicted, two artificial burrows shall be installed in suitable nearby habitat areas, per the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010) referenced in CDFG 2012. The artificial burrow design and installation shall be described in the Burrowing Owl Exclusion Plan per Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

Passive relocation of burrowing owls shall be limited in areas adjacent to Project activities that have a sustained or low-level disturbance regime; this approach shall allow burrowing owls that are tolerant of Project activities to occupy quality, suitable nesting and refuge burrows. The use of passive relocation techniques in a given area shall be determined by a Qualified Biologist based on existing and future conditions (e.g., time of year, vegetation/topographic screening, and disturbance regimes).

BIO-6 Measures for American Badger

- Preconstruction surveys for American badger shall be conducted by a Qualified Biologist no more than 30 days prior to ground disturbance.
- If potential American badger dens are observed and avoidance is feasible, buffer distances of 50 feet for occupied dens and 250-foot, no-disturbance buffers for natal dens shall be established by the Qualified Biologist prior to construction activities.
- If avoidance of the potential American badger dens is not feasible, the following measures are recommended to minimize potential adverse effects to the American badger:
    - If a Qualified Biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel and collapse them to prevent American badgers from re-using them during construction.
    - If the Qualified Biologist determines that potential dens may be active, biologist shall conduct remote camera monitoring of the burrow for a period of three consecutive days to confirm occupancy status. If the Qualified Biologist determines that a burrow is an active natal burrow, avoidance buffers shall be established to demarcate no-work areas that shall be maintained until the burrow is no longer an active natal burrow. Burrows that are determined to be non-natal or are active outside of the breeding season shall implement passive eviction procedures through the installation of one-way doors, and the use of remote camera monitoring to document no activity for 3 consecutive days. Dens that are determined to be unoccupied or have become inactive following passive eviction or at the end of breeding season shall be hand-excavated with a shovel and collapsed to prevent re-use during construction.

BIO-7 Pre-construction Surveys for Nesting Birds and Common Raptors

If construction is scheduled to commence during the non-breeding season (September 1 to January 31), no pre-construction surveys or additional measures for nesting birds or other raptors would be required. Prior to ground disturbing and vegetation removal activities that are initiated during the breeding season (February 1 to August 31), a Qualified Wildlife Biologist shall conduct pre-construction surveys of all potential nesting habitats within the Project area. The raptor survey shall focus on potential nest sites (e.g., owl boxes, large trees, windrows, and shrubs) within 500 feet of the site for common raptors. Nesting bird surveys shall be conducted within 14 days of the start of ground-disturbing or vegetation removal activities. Surveys need not be conducted for the entire Project area at one time and may be conducted in phases consistent with construction activity schedules. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance.

BIO-8 Nest Buffers

If active nests are found, a suitable no-work buffer shall be established around active nests. Buffers shall be determined by the Qualified Biologist and be established based on the species and nest location, to allow for known species' behavior and environmental factors (e.g., line of sight to nest) when establishing avoidance buffers. Standard buffers are typically 200-500 feet for common raptors and 30-50 feet for most common passerines. No access into buffer areas shall be allowed until a Qualified Biologist has determined that the nestlings have fledged and are no longer reliant on the nest or the nest has become otherwise inactive (e.g., depredation). Encroachment into the buffer may occur at the discretion of a Qualified Biologist and with the appropriate biological monitoring; however, for State-listed species, CDFW shall be consulted for approval of buffer encroachment or reduction.

Impact BIO-2

Threshold:	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Overall Project

No Impact. No sensitive natural communities or riparian habitat was recorded in the Project site. Therefore, there would be no impact from construction, operation or closure activities associated with any Project components.

Impact BIO-3

Threshold :	Would the project 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?

Overall Project

No Impact. With the exception of the California Aqueduct, Cantua Creek, ephemeral swales ES-1 through ES-5, and Impoundments 1 and 2, all other aquatic resource features mapped within the

jurisdictional study area are artificial and used for agricultural purposes, meeting exemptions and exclusions laid out by the resource agencies.

None of the Project components include construction, operation or closure activities within the California Aqueduct or Cantua Creek, and the project has been designed to avoid all other potentially jurisdictional aquatic resources. Therefore, the Project would have no impact on jurisdictional waters and wetlands.

Impact BIO-4

Threshold:	Would the project 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?

Overall Project

No Impact. No regional wildlife linkages or corridors are mapped within the BSA. The BSA is bordered to the north, east, and south by agriculture and to the west by the Ciervo Hills and Diablo Range. Local wildlife likely use the natural habitats in the Ciervo Hills to the west of the Project site and Cantua Creek south of the Project site for movement; however, none of the Project component locations overlap these areas and construction and operation of the Project would not create a significant barrier for wildlife movement therein. The Project site does not occur within a corridor that links between or among larger habitat areas on a regional basis and is not within any areas mapped as Essential Connectivity Areas by the California Essential Habitat Connectivity Project. Therefore, Project construction, operation and closure activities would not impact wildlife movement.

Impact BIO-5

Threshold:	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Overall Project

No Impact. Fresno County General Plan Policy OS-A.18 requires that natural watercourses be integrated into new development and the buffer areas between waterways and urban development be provided. None of the Project component locations contain any natural watercourses and the proposed Project is not “urban”; therefore, resources protected by local policies and ordinances are not present within the Project component locations and Project construction, operation and closure activities would not conflict with OS-A.18. Section E of the Fresno County General Plan Open Space and Conservation Element includes Goal OS-E: To help protect, restore, and enhance habitats in Fresno County that support fish and wildlife species so that populations are maintained at viable levels, and 18 applicable policies related to the preservation of natural vegetation communities, wildlife habitat, migration and wildlife corridors and the management of such habitat. The Project site does not support any natural vegetation communities and is devoid of suitable habitat for most species. Implementation of the APM BIO-1 would protect and enhance habitat for all special status species with potential to breed or forage within the Project site. As such, the Project would not conflict with Goal OS-E, its policies or any local policies or ordinances.

Impact BIO-6

Threshold:	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Overall Project

No Impact. The Project site is not located within any local, regional, or state conservation planning areas. Therefore, construction, operation and closure of Project components would not conflict with any adopted HCP, NCCP, or other approved local, regional, or state HCPs. The Project would have no impact on HCPs.

5.12.4 Cumulative Impacts

Impacts of the Project would be considered cumulatively considerable if they would have the potential to combine with other past, present, or reasonably foreseeable projects to become significant. A list of closely related past, present, and reasonably foreseeable projects are provided in Table 5-1 and shown on Figure 5-1 in Chapter 5, *Environmental Analysis*. Because the Project would cause no impact related to riparian habitats or other sensitive natural communities (Impact BIO-2); state or federally protected wetlands (Impact BIO-3); conflicting with local policies or ordinances protecting biological resources (Impact BIO-5); conflicting with wildlife movement or corridors (Impact BIO-4); or conflicting with Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans (Impact BIO-6), the Project could not cause or contribute to any significant impact on such resources. As such, cumulatively, the Project would have no impact related to these biological resource items and they are not discussed further below.

5.12.4.1 Overall Project

The geographical area evaluated for cumulative impacts to biological resources includes areas directly affected by construction as well as adjacent habitat potentially affected by construction activities associated with cumulative projects.

Project construction could affect candidate, sensitive, or special-status species as identified above; cumulative projects would have the potential for similar effects where those projects' activities occur in the presence or habitat of these species. As discussed above under Section 5.12.3, the Project site is almost completely devoid of any natural vegetation communities or suitable wildlife habitat and through avoidance measures, Project impacts to special-status species would be minor and are limited to very few species. All potential impacts to special-status species associated with the overall Project would be reduced to a less than significant level with the implementation of mitigation measures and adherence to federal, state, and local regulations. Impacts to sensitive species and habitats during construction would be temporary and intermittent in nature (lasting only as long as construction work at a given site) and would be limited in their potential geographic scope. Because the Project can achieve avoidance, minimization, or mitigation of these potential impacts, and in the context of the overall absence of natural habitat on the Project site, the Project's contribution to cumulative impacts on special-status species would not be cumulatively considerable. Additionally, cumulative projects within the nearby area would be expected to comply with federal and state regulations promulgated for the protection of sensitive species. As detailed in *Analysis of Project Impacts to Swainson's Hawk Foraging Habitat*, the Project would not result in a

significant impact to the regional population of Swainson's hawk through loss of suitable foraging habitat at the project level, nor would it contribute to a significant cumulative impact in concert with other planned or reasonably foreseeable solar projects (Appendix Q-8 of the BRA [Appendix Q]). After project development, the amount of surplus suitable foraging habitat for Swainson's hawk in the study area would remain greater than 70 percent of the existing surplus at both the project and cumulative level, and therefore provide sufficient surplus foraging habitat to allow for population growth and resiliency to disturbance, as well as to changes to the foraging landscape through changes in agricultural land uses. Therefore, cumulative impacts to sensitive species and their habitats would be less than significant and the Project's incremental contribution to those impacts would not be significant.

5.12.4.2 Utility Switchyard

Construction and operation of the utility switchyard is considered in the cumulative impact analysis of the overall Project discussed above; therefore, similar to the overall Project, cumulative impacts related to biological resources would be less than significant.

5.12.5 Laws, Ordinances, Regulations, and Standards

This section lists and discusses the biological resource LORS that apply to the Project. Consistent with the CEC's Application for Certification requirements, all plans and policies applicable to the study area are summarized below. As discussed above, the Project site is entirely within unincorporated Fresno County. Table 5.12-2 summarizes the LORS relevant to the Project.

Table 5.12-2 LORS Applicable to Biological Resources

Jurisdiction	LORS	Applicability	Opt-In Application Reference	Project Conformity
Federal	Federal Endangered Species Act (ESA; 16 USC 1531 *et seq*.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat. Applicants for projects that could result in adverse impacts to any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS.	Throughout this Opt-In Application	The Project would potentially impact the federally listed species. The Project will include mitigation measures to reduce impacts to federally listed species to a less than significant level.
Federal	Migratory Bird Treaty Act (MBTA; 16 USC 703 to 711)	Protects all migratory birds, including nests and eggs.	Section 5.12.5.1	The Project would potentially impact migratory bird species. The Project will include mitigation measures to reduce impacts to resident and migratory birds to a less than significant level.
Federal	Bald and Golden Eagle Protection Act (16 USC 668)	Specifically prohibits the taking of bald and golden eagles, including their parts (feathers), nests, or eggs.	Section 5.12.5.1	The Project would potentially impact golden eagle foraging habitat. The Project will include mitigation measures to reduce impacts to golden eagles to a less than significant level.
Federal	Clean Water Act (Section 404)	Authorizes the USACE to issue permits regulating the discharge of dredged or fill materials into waters of the U.S., defined as navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows.	Section 5.12.1	The Project is not anticipated to impact any waters of the U.S.
State	California Endangered Species Act (CESA; Fish and Game Code Section 2050 *et seq.*).	Designates and protects state threatened and endangered plants and animals and their habitats. Applicants for projects that could result in adverse impacts to any state listed species are required to consult with and mitigate potential impacts in consultation with CDFW.	Throughout this Opt-In Application	The Project would potentially impact the state listed species. The Project will include mitigation measures to reduce impacts to state listed species to a less than significant level.
State	Fish and Game Code Sections 3511, 4700, 5050, and 5515	Designates 33 species of wildlife as Fully Protected. Fully Protected species may not be taken or possessed, except under highly specific permit requirements.	Throughout this Opt-In Application	The Project would potentially impact any Fully Protected species. The Project will include mitigation measures and/or permitting under Senate Bill 147 to reduce impacts to fully protected species to a less than significant level.

Jurisdiction	LORS	Applicability	Opt-In Application Reference	Project Conformity
State	Fish and Game Code Sections 3503, 3503.5, 3513, and Senate Bill 147	Provides protection to native birds, specifically preventing the take, possession, or destruction of nests, eggs, birds-of-prey, and migratory non-game birds. Senate Bill 147 authorizes permitted take of Fully Protected species under specified project types, including Solar photovoltaic projects and appurtenant infrastructure improvements, including associated electric transmission projects to the point of grid interconnection.	Throughout this Opt-In Application	The Project would potentially impact native bird nests, eggs, birds-of-prey, or migratory non-game birds. The Project will include mitigation measures to reduce impacts to native bird nests, eggs, birds-of-prey, or migratory non-game birds to a less than significant level.
State	Native Plant Protection Act (Fish and Game Code Section 1900 *et seq.*)	Authorizes the State to designate and protect certain native plants as endangered or rare. Take of endangered or rare native plants is generally prohibited, except under certain highly specific circumstances.	Throughout this Opt-In Application	The Project is not anticipated to impact any endangered or rare native plant species.
State	Fish and Game Code Section 1602 *et seq.*	Prohibits alteration of any lake, river, or stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFW.	Section 5.12.2	The Project is not anticipated to impact any State jurisdictional aquatic resources.
State	California Environmental Quality Act	CEQA requires state and local agencies to identify the environmental impacts of proposed projects and consider alternatives and mitigation measures prior to approving them.	Section 5.12.3	The Project's Opt-In Application analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the Project's Opt-In Application.
State	Warren Alquist State Energy Resources Conservation and Development Act (Public Resources Code Section 25000 *et seq.*)	Establishes the CEC as the primary agency responsible for implementing energy policies, planning and regulations in the state. Outlines requirements for CEQA-equivalent environmental assessment of certain projects.	Throughout this Opt-In Application	The Project's Opt-In Application analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the Project's Opt-In Application.
State	Assembly Bill 205	Amends the Warren Alquist Act, extending an optional state-level permitting process to qualifying renewable energy generation and storage project.	Throughout this Opt-In Application	This Project qualifies for permitting via AB205 and intends to pursue this process.
State	Clean Water Act (Section 401)	Requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide State certification that the proposed activity will not violate State and federal water quality standards	Section 5.12.2	This Project is not anticipated to impact federally jurisdictional navigable waters.

Jurisdiction	LORS	Applicability	Opt-In Application Reference	Project Conformity
State	Porter-Cologne Water Quality Control Act	Requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB.	Section 5.12.2	This Project is not anticipated to impact waters of the State.
Local	Fresno County General Plan Policy OS-A.2 Policy OS-A.18 Policy OS-A.19 Policy OS-A.24 Policy OS-A.15 Policy OS-A.26 Policy OS-E.1 Policy OS-E.2 Policy OS-E.3 Policy OS-E.6 Policy OS-E.9 Policy OS-E.17 Policy OS-F.5 Policy OS-F.8	Contains goals and policies concerned with protecting and preserving natural resources and open space areas.	Section 5.12.3	This Project would be consistent with applicable policies from the County's General Plan through Project design and implementation of applicable mitigation measures.
Local	Fresno County Code of Ordinances Title 15	Describes ordinances applicable within Fresno County, including ordinances related to building and construction.	Throughout this Opt-In Application	This Project is located within Fresno County and therefore would be designed in compliance with the County's Ordinance Code.

5.12.5.1 Federal LORS

Federal Endangered Species Act

The USFWS and the National Marine Fisheries Service (NMFS) share responsibility for implementing the federal ESA. Generally, the USFWS implements the ESA for terrestrial and freshwater species, while the NMFS implements the ESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered wildlife species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species (Section 4) do not have the full protection of the ESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) is intended to ensure the sustainability of populations of all protected migratory bird species. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS. The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

- It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
- Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
- New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Several avian species protected under the MBTA have the potential to occur within the BSA. These species have adapted to foraging and nesting in open disked fields and fallow agricultural fields, and

they include but are not limited to mourning dove, house finch, common raven, and red-tailed hawk (Section 5.12.1.1, *General Wildlife*).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

A golden eagle protected under the Bald and Golden Eagle Protection Act was documented flying over the BSA.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites." Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas."

"Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. Specifically, the USACE's regulations define "waters of the United States" as follows, though some exceptions apply:

(1) Waters which are:
   (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
   (ii) The territorial seas; or
   (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:
   (i) Waters identified in paragraph (a)(1) of this section; or
   (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

The term "Adjacent" means "having a continuous surface connection" (33 CFR 328.3(c)(2)).

Authorization from with the USACE is required for any project that discharges dredge or fill into USACE jurisdictional waters of the U.S. No impacts to jurisdictional waters are anticipated.

5.12.5.2 State LORS

California Endangered Species Act

The California Endangered Species Act (CESA; Fish and Game Code Section 2050 *et. seq*.) prohibits take of State listed threatened or endangered species. Take under CESA is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (Fish and Game Code sec. 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA's protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Fish and Game Code Sections 3511, 4700, 5050, and 5515/Senate Bill 147

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. Exceptions include situations where a Natural Community Conservation Plan is in place that authorizes take of the fully protected species, or specific eligible project types as described in the newly passed Senate Bill 147, including:

- Maintenance, repair, or improvements to the State Water Project, including existing infrastructure, undertaken by the Department of Water Resources.
- Maintenance, repair, or improvements to critical regional or local water agency infrastructure.
- Transportation projects, including associated habitat connectivity and wildlife crossings, undertaken by a state, regional, or local agency, that does not increase highway or street capacity for automobile or truck travel.
- Wind projects and appurtenant infrastructure improvements, including associated electric transmission projects to the point of grid interconnection.
- Solar photovoltaic projects and appurtenant infrastructure improvements, including associated electric transmission projects to the point of grid interconnection.

Fish and Game Code Sections 3503, 3503.5, and 3513

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a State-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA; Fish and Game Code Section 1900 *et seq*.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and regulates the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare."

Fish and Game Code Section 1602 *et seq.*

California Fish and Game Code section 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, the plain language of CFGC Section 1602, applicable court decisions, CDFW regulations, and various guidance documents have shed light on the appropriate limits of CDFW jurisdiction. Based on these sources, a "stream" may flow perennially or episodically, includes land below the "top of bank," and may have one or more channels. These tenets, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires projects carried out by local or state government agencies, as well as those projects that require discretionary approval from local or state agencies (e.g., permits, licenses, etc.), to undergo an environmental review process that allows for a thorough assessment and mitigation of the environmental impacts of the proposed project. Through a comprehensive process of environmental review and documentation, CEQA requires agencies to identify, disclose, and if possible, avoid, minimize or mitigate adverse effects on the

environment. This entails the preparation of Environmental Impact Reports (EIRs) or other appropriate documentation, enabling informed decision-making by public agencies and the general public.

Within the framework of CEQA, there exist specific exceptions that allow for streamlined review processes under certain circumstances. Categorical exclusions, for instance, pertain to certain categories of projects that have been determined to have negligible impacts on the environment. These projects are exempted from the full CEQA review process, expediting their approval. Additionally, findings of consistency with adopted plans or regulations can lead to exceptions, wherein if a project aligns with established guidelines, it may not require extensive CEQA analysis. However, it is important to note that these exceptions are subject to careful scrutiny and must be based on substantial evidence.

The Warren Alquist Act/Assembly Bill 205

The Warren-Alquist Act provides the CEC with jurisdictional authority over the construction and operation of thermal power plants and related facilities, establishing CEC certification in lieu of any otherwise required state and local permits and superseding any otherwise applicable state or local policies, laws, regulations and ordinances. AB 205 (Chapter 61, 2022) expands CEC's authority under the Warren-Alquist Act to establish a new certification program for eligible non-fossil-fueled power plants and related facilities to optionally seek certification from the CEC, using emergency rulemaking authority provided by AB 205. Through Memorandums of Understanding, the CEC, CDFW and the SWRCB and RWQCBs have established consultation processes to ensure AB 205's requirements related to the regulation of fish, wildlife and water resources are met.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide State certification that the proposed activity will not violate State and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects.

The process begins when an applicant submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit. For this Project, the Central Valley Regional Water Quality Control Board would be the consulting water board.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution.

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB (for this Project, the Central Valley Regional Water Quality Control Board). The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). The SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* establish a process for permitting for dredging and fill activities. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

5.12.5.3 Local LORS

Fresno County General Plan

The Fresno County General Plan (2000) contains policies concerned with protecting and preserving natural resources and open space areas. These natural resources and open space areas include wetland and riparian areas, fish and wildlife habitat, and vegetation. The following policies are related to the Project.

- **Policy OS-A.2:** The County shall provide active leadership in the regional coordination of water resource management efforts affecting Fresno County and shall continue to monitor and participate in, as appropriate, regional activities affecting water resources, groundwater, and water quality.
- **Policy OS-A.18:** The County shall require that natural watercourses are integrated into new development in such a way that they are accessible to the public and provide a positive visual element and a buffer area between waterways and urban development in an effort to protect water quality and riparian areas.
- **Policy OS-A.19:** Floodplain Protection. The County shall require the protection of floodplain lands and, where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access, and recreation.
- **Policy OS-A.24:** The County shall require new development near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in storm waters, flowing river, stream, creek, or reservoir waters.
- **Policy OS-A.25:** The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-

road vehicles. The County shall discourage grading activities during the rainy season unless adequately mitigated to avoid sedimentation of creeks and damage to riparian habitat.

- **Policy OS-A.26:** Policy OS-A.26 The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff.
- **Policy OS-E.1:** The County shall support efforts to avoid the "net" loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the US Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.
- **Policy OS-E.2:** The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both onsite habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the US Fish and Wildlife Service and/or the California Department of Fish and Game.
- **Policy OS-E.3:** The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.
- **Policy OS-E.6:** The County shall ensure the conservation of large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife populations, as long as this preservation does not threaten the economic well-being of the county.
- **Policy OS-E.9:** Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.
- **Policy OS-E.17:** Endangered Species Habitat. The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with State and Federal endangered species laws.
- **Policy OS-F.5:** Rare, Threatened, and Endangered Species. The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. As part of this process, the County

shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.

- **Policy OS-F.8:** The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.

Fresno County Code of Ordinances

The Fresno County Ordinance Code describes ordinances related to Building and Construction in Title 15 and ordinances related to maintenance and preservation of trees in Chapter 13.12.040. Ordinances relevant to the Project include, but are not limited to the following:

15.04.120 – Public nuisance in construction and demolition.

Any person to whom a permit has been issued as provided herein for the repair, alteration, demolition, or construction of any structure shall comply with each of the following:

A. Take reasonable precaution to prevent or control the movement of wind born dust created by such activities.
B. Promptly remove all dust and mud tracked into a public street by the movement of vehicles, equipment, materials and personnel.
C. During the progress of the construction, the contractor shall promptly remove all garbage, waste, food, trash, litter and all other items likely to attract or harbor rats or vermin on the job site. Any wastepaper, cartons or building materials that may be considered an attractive nuisance or a personal hazard shall be promptly removed. No garbage, waste, food, or trash shall be buried on the job site. The permittee shall provide adequate trash containers on the job site.
D. At the time of Final Inspection following completion of the work under the permit, the streets and the construction site shall be left free of all waste materials.

Chapter 13.12.040 - Trees and Shrubs, Director of public works and planning or designee – Duties.

The duties of the director of general services, in addition to any other duties set forth in this chapter, shall be as follows:

A. Issue permits to persons for the planting, trimming and removal of trees within the county highway which is declared by resolution of the county to be scenic drive. It is unlawful for any person to plant, trim, prune or remove any tree located upon the county highway within those areas which have been declared by the board of supervisors to be a scenic drive without first having obtained a permit from the director of public works and planning or designee;
B. Encourage the planting of trees along county highways where it will promote the beauty of the highway;

C. Determine the variety, kind and characteristic of trees from the master tree list that may be planted upon the county highway, as well as the grounds and property of the county;
D. Advise the director of public works and planning designee as to the manner of pruning, cutting and removing of trees upon the highway in order to protect the highway user or to promote the beauty of the highway;
E. Plant and care for trees within the county highway declared by the board of supervisors to be a scenic drive; and
F. Maintain all records of the tree board, copies of the master tree list, copies of all permits issued, and a map of the county highways declared to be a landscaped drive or owned by the county in fee simple, showing as nearly as practical the tree plantings thereon including the variety and spacing of all plantings since the enactment of this chapter.

5.12.6 Agencies and Agency Contact

Table 5.12-3 lists regulatory agency contacts for biological resources for this Project. The Applicant has been coordinating with CDFW since February 2023 to identify potential biological resources concerns and measures for avoidance, minimization and mitigation. In particular, the Applicant has been coordinating with the CDFW on APM BIO-1, Swainson's Hawk Conservation Strategy (Rincon 2023a).

Table 5.12-3 Agency Contacts for Biological Resources

Issue	Agency	Contact
Swainson's Hawk	CDFW	Krista Tomlinson Krista.Tomlinson@wildlife.ca.gov
State-Listed Species	CDFW, Central Region	(559) 243-4005 reg4assistant@wildlife.ca.gov
Federally Listed Species	USFWS, Sacramento Field Office	Matthew Nelson Matthew_nelson@fws.gov

5.12.7 Permits and Permit Schedule

The Applicant and CEC would collaborate with the Fresno County Public Works and Planning Department and CDFW on review of this Opt-in Application to ensure compliance with applicable Fresno County and CDFW requirements. Because of the exclusive jurisdiction of the CEC, no other biological resource permits are required for the Project.

5.12.8 References

Biosystems Analysis, Inc. 1989. *Endangered Species Alert Program Manual: Species Accounts and Procedures.* Southern California Edison Environmental Affairs Division.

Bloom, P. H. 1980. The status of the Swainson's hawk in California, 1979. U.S. Dep. Inter., Bur. Land Manage., Sacramento. Proj. W-54-R-12, Job II-8. Final Rep. 42pp.

California Department of Fish and Game (CDFG). Departmental Jurisdiction Over Waterways, Legal Advisor Opinion. October 17.

_____. 2012. Staff Report on Burrowing Owl Mitigation. March 7, 2012.

California Department of Fish and Wildlife (CDFW). 2023a. California Natural Diversity Database (CNDDB), Rarefind V. Accessed January 2023.

_____. 2023b. Special Animals List. Biogeographic Data Branch, California Natural Diversity Database. July 2023.

_____. 2023c. Biogeographic Information and Observation System (BIOS). Accessed July 2023 from www.wildlife.ca.gov/data/BIOS.

California Native Plant Society (CNPS), Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org. Accessed January 2023.

Cypher, B. L., S. E. Phillips, and P. A. Kelly. 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. *Canid Biology & Conservation*. 16(7): 25–31

eBird. 2023. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available online at: http://www.ebird.org. Accessed July 2023.

Estep, J.A. 1989. *Biology, movements, and habitat relationships of the Swainson's Hawk in the Central Valley of California, 1986-87.* California Department of Fish and Game, Nongame Bird and Mammal Section Report, 53pp.

Estep, J. 2017. *The Distribution and Abundance of Nesting Swainson's Hawks in the Vicinity of the Proposed RE Mustang 2 Solar Generating Facility.* Prepared by Estep Environmental Consulting, Sacramento, CA, for RE Mustang Two LLC, San Francisco, CA. January.

Fresno, County of. 2000. *General Plan Update*. Draft Environmental Impact Report.

Furnas, B.J., Wright, D.H., Tennant, E.N., O'Leary, R.M., Kuehn, M.J., Bloom, P.H. and Battistone, C.L. 2022. Rapid growth of the Swainson's Hawk population in California since 2005. *Ornithological Applications* 124: 1–12.

Garrett, K., and J. Dunn. 1981. *Birds of southern California.* Los Angeles Audubon Society, 408pp.

Gifford, D. L., P. S. Hofmann, A. A. Truex, and D. H. Wright. 2012. Monitoring distribution and abundance of nesting Swainson's Hawks in the Sacramento Valley and Sacramento River Delta, California. *California Fish and Game Journal* 98: 7–18.

Grinnell, J., and A. H. Miller. 1944. *The Distribution of the Birds of California.* Pac. Coast Avifauna No. 27. 608pp.

H.T. Harvey and Associates. 2023. *Darden Solar Project San Joaquin Kit Fox Assessment.* March 2023.

Hunting, K. and L. Edson. 2008. Mountain Plover (*Charadrius montanus*) in Shuford, W.D. and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and reptile species of special concern in California.* Final Report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA. 225 pp.

Johnson, D. H., D. C. Gillis, M. A. Gregg, J. L.Rebholz, J. L. Lincer, and J. R. Belthoff. 2010. Users guide to installation of artificial burrows for Burrowing Owls. Tree Top Inc., Selah, Washington. 34 pp.

Klute D.S., L.W. Ayers, M.T. Green, W.H. Howe, S.L. Jones, J.A. Shaffer, S.R. Sheffield, and T.S. Zimmerman. *2003 Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States.* U. S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003. Washington, D.C.

McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan. 1979. *Birds of northern California, an annotated field list.* 2nd ed. Golden Gate Audubon Soc., Berkeley. 84pp.

Nafis, G. 2023. California Herps - A Guide to the Amphibians and Reptiles of California. Available at: https://californiaherps.com/snakes/pages/c.f.ruddocki.html. Accessed August 2023.

NatureServe. 2023. NatureServe Explorer [web application]. Arlington, Virginia. Available at: http://explorer.natureserve.org. Accessed July 2023.

Rincon Consultants. 2023a. *Swainson's Hawk Conservation Strategy for the Darden Green Energy Project.* 47 pp.

Rincon Consultants. 2023b. *Vegetation Management Plan for the Darden Green Energy Project.*

Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation, Second Edition.* California Native Plant Society, Sacramento, California.

Shaffer, H. B., and R. Fisher. 1991. Final Report to the California Department of Fish and Game: California tiger salamander surveys, 1990--Contract (FG9422). California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA.

Shaffer, H. B., R. N. Fisher, and S. E. Stanley. 1993. Status report: the California tiger salamander (*Ambystoma californiense*). Final report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova California, under Contracts (FG9422 and 1383).

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California.* Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

Stebbins, R. C. 2003. *A Field Guide to Western Reptiles and Amphibians.* 2nd ed. Houghton-Mifflin Company. Boston, Massachusetts.

Stringer Biological Consulting, Inc. (SBC). 2023. *Darden Solar Project, Fresno County – Analysis of Project Impacts to Swainson's Hawk Foraging Habitat.* August.

Stringer Biological Consulting, Inc. (SBC) and Rincon Consultants. 2023. *Swainson's Nesting Hawk Survey Report for the Darden Solar Project, Fresno County.* July.

United States Department of Agricultural, Natural Resources Conservation Service. 2023a. Web Soil Survey. Accessed January and August 2023. Soil Survey Area: Fresno County, California. Soil Survey Data: Version 17, September 1, 2022.

_____. 2023b. National List of Hydric Soils. Available: https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

United States Fish and Wildlife Service (USFWS). 2010. San Joaquin kit fox (*Vulpes macrotis mutica*) 5-year review: summary and evaluation. USFWS, Sacramento Fish and Wildlife Office, Sacramento, California.

_____. 2011. U.S. Fish And Wildlife Service Standardized Recommendations For Protection Of The Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance.

_____. 2020. Species Status Assessment Report for the San Joaquin Kit Fox (*Vulpes macrotis mutica*). Version 1.0. Sacramento Fish and Wildlife Office, Sacramento, California

_____. 2023a. Information for Planning and Consultation (IPaC) online project planning tool. Available at: https://ecos.fws.gov/ipac/.

_____. 2023b. Critical Habitat Portal. Available at: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

_____. 2023c. National Wetlands Inventory (NWI). Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

United States Geological Survey (USGS). 2023. The National Map Viewer. National Geospatial Program. Available at: https://apps.nationalmap.gov/advanced/viewer/.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Volumes I, II, & III. California Department of Fish and Game, Sacramento, California

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