DOCKETED	
Docket Number:	24-OPT-05
Project Title:	Corby Battery Energy Storage System Project
TN #:	263990
Document Title:	Biological resources Report - Redline
Description:	Redline comparison of April 2025 Biological Resources Report Text with previous version.
Filer:	Doug Urry
Organization:	Tetra Tech
Submitter Role:	Applicant Consultant
Submission Date:	6/4/2025 8:43:22 PM
Docketed Date:	6/5/2025

BIOLOGICAL RESOURCES REPORT FOR THE CORBY BATTERY ENERGY STORAGE SYSTEM PROJECT

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~~September~~ April 202~~4~~5

ICF. 2025~~4~~. *Biological Resources Report for the Corby Battery Energy Storage System Project*. ~~September~~ April. (ICF 104188.0.011) Sacramento, CA. Prepared for Corby Energy Storage, LLC. Juno Beach, FL.

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Acronyms and Abbreviations

Applicant	Corby Energy Storage, LLC
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNPS	California Native Plant Society
CWA	Clean Water Act
ESA	Endangered Species Act
gen-tie line	generation tie line
kV	kilovolt
MBTA	Migratory Bird Treaty Act
PG&E	Pacific Gas & Electric
Project	Corby Battery Energy Storage System Project
USFWS	U.S. Fish and Wildlife Service
USGS	U.S Geological Survey

Executive Summary

Corby Energy Storage, LLC, proposes to construct, own, and operate the Corby Battery Energy Storage System Project (Project) on approximately 40.3 acres of privately owned land in Solano County, California. The Project includes the construction of a battery energy storage system, associated Project substation, inverters, and other ancillary facilities. Ancillary facilities encompass another approximately 29.2 acres for a total project ~~disturbance~~ area of approximately 69.5 acres. To comply with regulatory requirements, ICF conducted a Biological Resource Assessment for the Project to collect and review information on biological resources, including special-status species and their habitats, with potential to occur within the vicinity of the Project Area. The Project is planned to be permitted through the California Energy Commission under an "opt-in" process and information presented within this Biological Resource Assessment is consistent with standards described in California Code of Regulations Title 20, Division 2, Chapter 5 Appendix B§13 *Information Requirements for an Application for Certification (AFC) or Small Power Plant Exemption (SPPE;* CCR 2023).

A desktop literature review and biological resource surveys were conducted at the Project to evaluate the occurrence, quality, and extent of biological resources in the Project Area and surrounding vicinity. The majority of land cover in the Project Area consists of habitat converted to agricultural uses including orchard and dryland agriculture; a portion of the Project spans the Interstate 80 corridor and connects to an existing substation, reducing the likelihood of occurrence of most special-status plant and wildlife species. Although the existing highly anthropogenically modified landscape precludes occurrence of most species and blocks wildlife movement and connectivity, three special-status bird species were observed using the Project Area or vicinity during surveys including burrowing owl (CDFW Species of Special Concern), Swainson's hawk (California Threatened), and white-tailed kite (CDFW Fully Protected). Based on observations of these species during surveys and presence of suitable nesting and foraging habitat. These species would likely occupy portions of the Project Area, depending on the time of year (e.g., breeding, nonbreeding periods). Orchards, non-native forest, and electrical poles provide suitable nesting and foraging habitat for other nonspecial-status bird species.

Aquatic resources (wetlands and waters of the U.S.) were delineated within and 250 feet surrounding the Project Area. Four types of aquatic resources were mapped including basin, ditch, intermittent riverine, and palustrine emergent seasonal wetland. A preliminary jurisdictional analysis determined the intermittent riverine feature, consisting of a reach of Gibson-Canyon Creek may be considered jurisdictional under Section 404 of the Clean Water Act per Code of Federal Regulations 328.3.b.3 and Section 1600 et. seq. of the Fish and Game Code because of its connectivity to a tidal slough. Waters of the State include the seasonal wetlands, ditches, and basins per Porter-Cologne Act and under the jurisdiction of the Central Valley Regional Water Quality Control Board/State Water Board. A full report of the wetland/waters delineation is appended to this report.

Chapter 1
Introduction

Corby Energy Storage, LLC (Applicant), proposes to construct, own, and operate the Corby Battery Energy Storage System Project (Project) on an approximately 40.3 acre privately owned parcel The Project will include a 300-megawatt (MW) battery energy storage system (BESS), associated Project substation, inverters, and other ancillary facilities, such as fencing, roads, a retention basin, and a supervisory control and data acquisition (SCADA) system. in Solano County, California. On behalf of the Applicant, ICF conducted a Biological Resource Assessment for the Project to collect and review information on biological resources, including special-status species and their habitats, with potential to occur within the vicinity of the Project Area. Information presented within this Biological Resource Assessment is consistent with standards described in California Code of Regulations (CCR) Title 20, Division 2, Chapter 5 Appendix B§13 *Information Requirements for an Application for Certification (AFC) or Small Power Plant Exemption (SPPE;* CCR 2023).

1.1 Project Location and Study Area

The approximately 69.5-acre Project Area is located in the middle of Solano County, along Interstate 80 (I-80) between the towns of Vacaville and Dixon, California. (Figure 1). The Project Area is within the Allendale 7.5-minute U.S. Geological Survey (USGS) quadrangle in Township 6 north, Range 1 east, Section 6; (38.39246° latitude, -121.90747° longitude is the approximate center of the Project Area).

The desktop Study Area consisted of a 10-mile radius (314 mile^2) surrounding the Project Area which overlapped thirteen 7.5-minute (1:24,000) USGS quadrangles located in three California counties (Table 1). The 10-mile desktop Study Area represented the largest area where biological resources were evaluated and varied among resource types (e.g., wildlife, habitats, wetlands). Chapter 2*, Methods*, describes the resource specific distances from the Project Area that were used in the assessment.

Table 1. USGS 7.5-minute quadrangles within the 10-mile Survey Area surrounding the Corby Energy Battery Storage System, Solano County, California.

Quad Name	USGS Quad Code	Associated County(ies)
Birds Landing	3812127	Solano
Denverton	3812128	Solano
Liberty Island	3812136	Solano, Yolo
Dozier	3812137	Solano
Elmira	3812138	Solano
Saxon	3812146	Solano, Yolo
Dixon	3812147	Solano
Allendale*	3812148	Solano
Merritt	3812157	Solano, Yolo
Winters	3812158	Solano, Yolo
Fairfield North	3812231	Solano, Napa
Mt. Vaca	3812241	Solano, Napa, Yolo
Monticello Dam	3812251	Solano, Napa, Yolo

* Project location

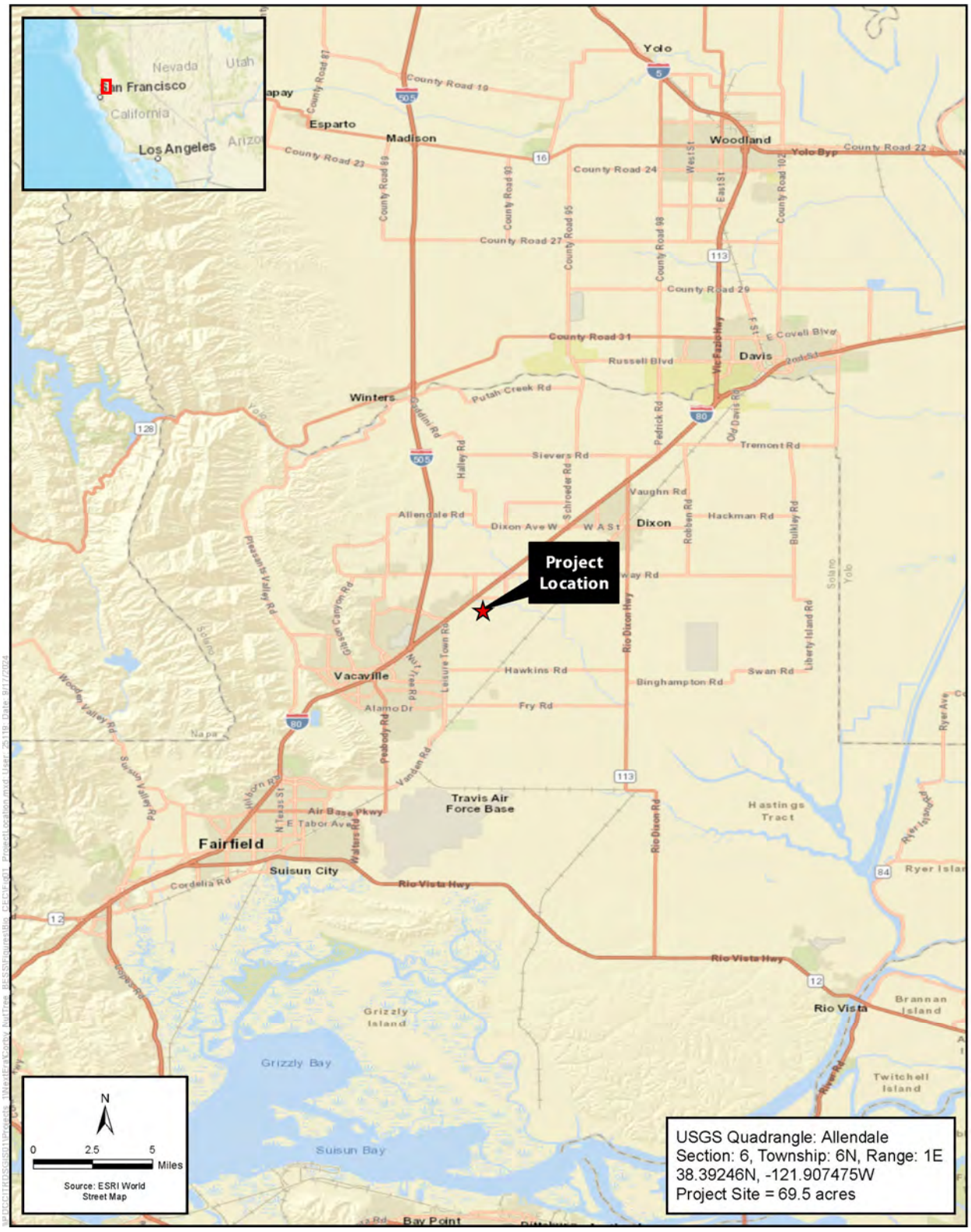


Figure 1. Project Location

1.2 Project Description

The Project will include a 300-megawatt (MW) battery energy storage system, associated Project substation, inverters, and other ancillary facilities, such as fencing, roads, a retention basin, and a supervisory control and data acquisition (SCADA) system (Figure 2). The proposed Project site is currently used as agricultural land for row crops. The surrounding land is also in agricultural use, including orchards to the south, irrigated pastures to the east and west, and rural residential use to the north.

The Project will connect to the Pacific Gas and Electric (PG&E) Vaca-Dixon Substation across I-80 and northwest of the Project site, using an approximately 1.1-mile long 230-kilovolt (kV) generation tie (gen-tie) line, portions of which will be installed overhead and underground. The underground portion of the gen-tie line will run east-west parallel to and crossing Kilkenny Road, either within acquired easements on adjacent parcels (Underground Route Option #1) or within the Kilkenny Road right-of way (Underground Route Option#2).

The overhead portions will include two structures on the Project site, four structures between Kilkenny Road and I-80 on private land owned by the Applicant, and up to four structures north of I-80 on PG&E-owned property adjacent to the Vaca-Dixon Substation, for a total of up to ten overhead gen-tie structures.

To accommodate the interconnection of the Project, PG&E will install a new 230-kV Double Bus (DB) Bay structure with associated foundations and supports on approximately 0.6 acres of the existing substation. This new bay will house four switch support structures and associated equipment for the new 230-kV connection. In addition, PG&E will also construct, own, and operate the portion of the gen-tie between the point of change of ownership (POCO) pole immediately south of I-80 and the first point of interconnection at the Vaca-Dixon Substation, including five of the ten structures.

The Project will be unstaffed after construction, with operational control from an offsite control room through the SCADA system. Operational staff will perform periodic inspections and maintenance as necessary.

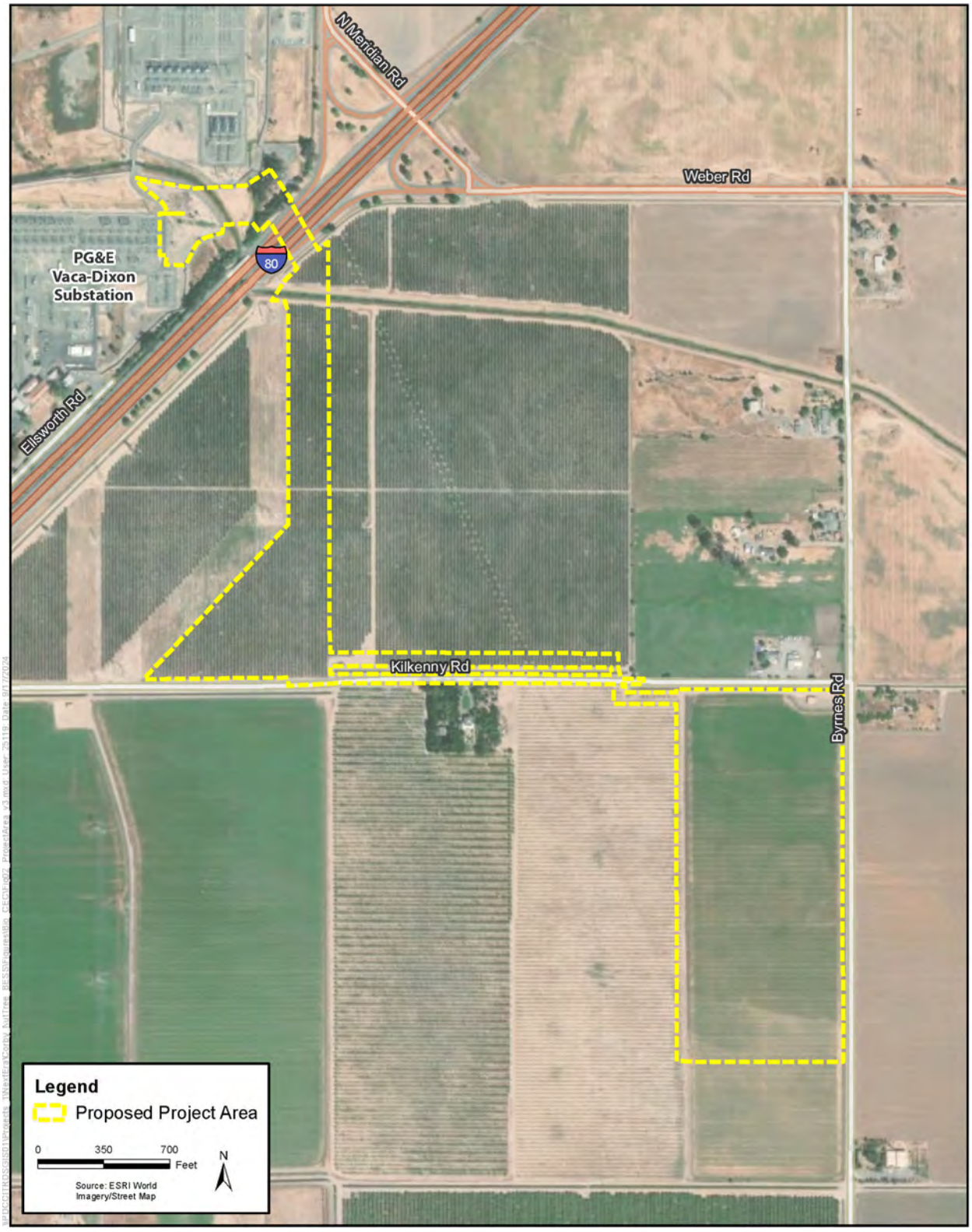


Figure 2. Project Area

1.3 Regulatory Setting

This section provides an overview of the major laws and regulations that may apply to biological resources that may be affected by the Project.

1.3.1 Federal Regulations

1.3.1.1 Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under Section 9 of the federal Endangered Species Act (ESA). ESA protects listed species from harm, or *take*, which is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." For any project involving a federal agency in which a listed species could be affected, the federal agency must consult with USFWS in accordance with Section 7 of ESA. USFWS issues a biological opinion and, if the Project does not jeopardize the continued existence of the listed species, issues an incidental take permit. When no federal context is present, proponents of a project affecting a listed species must consult with USFWS and apply for an incidental take permit under ESA Section 10. Section 10 requires an applicant to submit a habitat conservation plan that specifies project impacts and mitigation measures.

1.3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC Section 703, et seq.), enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA of 1918 provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. On December 22, 2017, the U.S. Department of the Interior's Office of the Solicitor issued a legal, revised interpretation (Opinion M-37050) of the MBTA's prohibition on the take of migratory bird species. Opinion M-37050 concludes that "consistent with the text, history, and purpose of the MBTA, the statute's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs." According to the Opinion M-37050, take of a migratory bird, its nest, or eggs that is incidental to another lawful activity does not violate the MBTA, and the MBTA's criminal provisions do not apply to those activities. Opinion M-37050 may affect how MBTA is interpreted but it does not legally change the regulation itself. The current list of species protected by the MBTA can be found in Title 50 CFR Section 10.13. The list includes nearly all birds native to the United States.

1.3.1.3 Clean Water Act

The Clean Water Act (CWA) was passed by Congress in 1972 with a broad mandate "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The chief purpose of the CWA is to establish the basic structure for regulating discharges of pollutants into Waters of the United States. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the Army Corps of Engineers. Any activity that involves a discharge of dredged or fill material into Waters of the United States, including wetlands, is subject to regulation by the U.S. Army Corps of Engineers. *Waters of the United States* is defined to encompass navigable Waters of the United States; interstate waters; all other waters where their use, degradation, or destruction could affect interstate or foreign commerce; tributaries of any of these waters; and wetlands that meet any of these criteria or are adjacent to any of these waters or their tributaries. *Wetlands* are defined under Section 404 as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria.

- They support hydrophytic vegetation (i.e., plants that grow in saturated soil).
- They have hydric soil types (i.e., soils that are wet or moist enough to develop anaerobic conditions).
- They have wetland hydrology.

In addition, Section 401 of the CWA (33 USC 1341) requires applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into Waters of the United States must apply for water quality certification from the state. Therefore, all projects with a federal component that may affect the quality of Waters of the state (including projects that require federal approval, such as a CWA Section 404 permit) must comply with CWA Section 401.

1.3.2 State Regulations

1.3.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of *take*. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. CDFW administers CESA and authorizes take through Section 2081 agreements.

1.3.2.2 Fully Protected Species

The California Fish and Game Code (CFGC) provides protection from take for a variety of species, referred to as *fully protected species*. Section 5050 lists fully protected amphibians and reptiles, Section 3515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals. The CFGC defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research or authorized pursuant to an approved Natural Community Conservation Plan, all take of fully protected species is prohibited.

1.3.2.3 California Fish and Game Code

Section 3503 - Prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

Section 3503.5 - Protects birds of prey (including eagles, hawks, falcons, kites, osprey, and owls) and prohibits the take, possession, or destruction of birds and their nests.

Section 3513 – Specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA

Section 3800 – It is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.

1.3.2.4 Lake or Streambed Alteration Agreements

In addition to regulating listed and special-status species, CDFW regulates activities that would interfere with the natural flow—or substantially alter the channel, bed, or bank—of a lake, river, or stream. These activities are regulated under CFGC Sections 1600–1616 and require a streambed alteration agreement. Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. CDFW may require avoidance or minimization of vegetation removal, use of standard erosion control measures, limitations on the use of heavy equipment, limitations on work periods to avoid impacts on fish and wildlife, and restoration of degraded sites or compensation for permanent habitat losses, among other conditions.

1.3.2.5 California Environmental Quality Act

Section 15380 in the CEQA Guidelines addresses situations in which a project under review may have a significant effect on a species that has not been listed under the ESA, California ESA, or Native Plant Protection Act, but may meet the definition of endangered, rare, or threatened. Animal species identified as Species of Special Concern by CDFW, birds identified as Birds of Conservation Concern by USFWS, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare.

1.3.2.6 Species of Special Concern

Species of Special Concern are defined by CDFW as species, subspecies, or distinct populations of an animal native to California that are not legally protected under the federal ESA, California ESA, or CFGC, but fit one of the following criteria:

- Is extirpated from the state or, in the case of birds, is extirpated in its primary season or breeding role;
- Is listed as federally, but not state, threated or endangered; meets the state definition of threated or endangered but has not formally been listed;
- Is experiencing, or formally experienced, serious population declines or range retractions that, if continued or resumed, could qualify it for state threatened or endangered status;
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.

Depending on the policy of the lead agency, projects that result in significant impacts on Species of Special Concern may be considered significant under CEQA.

1.3.2.7 Sensitive Natural Communities

CDFW maintains the California Natural Community List, which provides a list of vegetation alliances, associates, and special stands as defined in the Manual of California Vegetation (Sawyer et al. 2009), along with their state and global rarity ranks. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive. Depending on the policy of the lead agency, projects that result in significant impacts on sensitive natural communities may be considered significant under CEQA.

1.3.2.8 California Rare Plant Rank

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2023), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting these criteria are assigned to one of six California Rare Plant Ranks.

Depending on the policy of the lead agency, substantial impacts on plants ranked 1A, 1B, 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

1.3.3 Local Plans and Ordinances

1.3.3.1 Solano County General Plan

The Solano County General Plan (2008) is a guide for both land development and conservation in the unincorporated portions of the county. The Resources Section's (Chapter 4) purpose is to identify the goals, policies, and implementation measures to protect natural, cultural, and open space resources.

1.3.3.2 Solano Multi-Species Habitat Conservation Plan

The Solano Multi-Species Habitat Conservation Plan (2012) establishes a framework for complying with federal and state regulations for endangered species while accommodating future urban growth, development of infrastructure, and ongoing operations and maintenance activities associated with flood control, irrigation facilities, and other public infrastructure undertaken by or under the permitting authority/control of the Habitat Conservation Plan participants within the plan area. Covered activities under the Habitat Conservation Plan include development; irrigation district service area inclusions, expansions, and annexations; operation and maintenance activities of public facilities; recreation facilities and management; management, enhancement, habitat restoration/ construction, monitoring, scientific collection, and associated compatible activities on designated reserves; mitigation sites/banks; open space lands and adjacent lands; and relocation of covered species. The Project would not be considered a covered activity/project under the Solano Multi-Species Habitat Conservation Plan.

Chapter 2
Methods

The potential presence of biological resources in the Project Area was determined through a desktop review of publicly available information, preliminary site reconnaissance survey, and species-specific field surveys focused on special-status species identified as having a higher likelihood to occur during the assessment process. Evaluation of biological resources varied by resource type according to CCR (2023) standards.

- 10 miles from Project Area: sensitive biological resources (wildlife and plant species)(20 CCR Div. 2 Ch. 5 App. B §13(A))
- 1 mile of the Project Area: list of the species and habitat(s) actually observed and those with a potential to occur (20 CCR Div. 2 Ch. 5 App. B §13(B))
- 1,000 feet from the outer edge of linear facility corridors: list of the species and habitat(s) observed and those with a potential to occur (20 CCR Div. 2 Ch. 5 App. B §13(B))
- 250 feet from the edge of disturbance: state and federal jurisdictional features including state waters (20 CCR Div. 2 Ch. 5 App. B §13(B[iii]))

2.1 Special-Status Species Definition

For the purpose of this report, *special-status species* are plants and animals that are legally protected under ESA, CESA, or other regulations, or species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants and animals are those species in any of the categories listed below.

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the Federal Register [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA.
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Animals fully protected in California (CFGC Section 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).
- Animal Species of Special Concern to the CDFW (2024a).
- Birds of Conservation Concern (USFWS 2024a).
- Bats identified as medium or high priority on the Western Bat Working Group regional priority species matrix (Western Bat Working Group 2023).
- Plants listed as rare under the California Native Plant Protection Act (CFGC 1900 et seq.).

- Plants considered by CDFW and the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Rare Plant Ranks 1B and 2) (CDFW 2024a; CNPS 2024).
- Plants identified by CDFW and CNPS about which more information is needed to determine their status, and plants of limited distribution (Rare Plant Ranks 3 and 4), which may be included as special-status species on the basis of local significance or recent biological information (CDFW 2024a; CNPS 2024).

2.2 Literature Review

The following primary resources were reviewed to determine the potential for special-status species to occur within or in the vicinity of the Project Area.

- The occurrence of state- and federally listed or special-status wildlife and plant species were queried using CDFW CNDDB data for 13 7.5-minute USGS quadrangles USGS quadrangles within 10 miles of the Project Area (CDFW 2024b).
- The occurrence of federally designated wildlife and aquatic resources for the Project Areas was queried using USFWS Information, Planning, and Consultation (IPaC) System Resource Report (USFWS 2024a).
- CNPS' Inventory of Rare and Endangered Plants and Plant Communities of California was queried for the 13 7.5-minute USGS quadrangles within 10 miles of the Project Area (CNPS 2024). The CNPS inventory list for 13 quadrangles was cross referenced with CNDDB rare plant occurrence data within 10 miles of the Project Area to assist in determining the likelihood of occurrence at the Project Area.
- Sensitive Natural Community data were queried within 10 miles of the Project Area using the occurrence of Important Bird Areas, sensitive plant communities and designated critical habitat, (Audubon 2024; CNPS 2024; USFWS 2024a).
- Spatial and tablature data used in the aquatic resource delineation survey within 250 feet of the Project Area included Natural Resources Conservation Service (NRCS) climate and soil data, Arid West Regional Wetland Plant List reports, and USFWS National Wetlands Inventory data (NRCS 2024a, NRCS 2024b, USACE 2022, USFWS 2024b).
- Wildlife movement and connectivity within 10 miles of the Project Area was evaluated using models found in the CDFW BIOS6 Viewer and included the Habitat Connectivity Viewer and Ungulate Migration Viewer. Datasets in the viewers included models from CDFW Terrestrial Connectivity Project (CDFW 2024b), the California Essential Habitat Connectivity Project (Spencer et al. 2013) among other sources.

In addition to the primary resources listed above, aerial imagery (Google Earth 2024), gray and white reports from resource agencies, non-governmental organizations, and academic entities, as cited throughout this document, were reviewed to determine the likelihood for occurrences of sensitive biological resources within or in the vicinity of the Project Area.

2.3 Field Surveys

2.3.1 Reconnaissance Survey

ICF biologist Rachel Bennett conducted a reconnaissance-level field survey 250 feet from the edge of disturbance for the Project Area and gen-tie line location on June 1, 2023. The Project Area was surveyed on foot using field maps and aerial imagery to ensure site coverage. Inaccessible areas were surveyed from Weber Road with binoculars. Special attention was given to identifying portions of the Project Area with the potential to support special-status species and sensitive habitats. During the field survey, biological communities occurring onsite were characterized and biological information was collected including potential aquatic resources, vegetation communities, plant and animal species directly observed, special habitat features, representative site photographs. A list of wildlife observed during this survey is included in Appendix B. Representative photographs of the Project Area are included in Appendix C.

2.3.2 Swainson's Hawk Nest Survey

ICF biologist Ross Wilming conducted Swainson's hawk surveys for the Project Area on the following dates: 3/16/2023 (Period I); 4/13/14 and 4/19/2023 (Period III); and 6/27/2023–6/29/2023 (Period V). Surveys followed recommendations outlined in the *Recommended Timing and Methodology for Swainson's hawk Nesting Surveys in California's Central Valley* prepared by the Swainson's Hawk Technical Advisory Committee (2000). The majority of the surveys were conducted using a vehicle ("windshield surveys"); walking was required at some locations where vehicle access or parking was unavailable (e.g., no road shoulder, private driveway/roads). Locational data collected during previous surveys (Survey I and III) in ArcGIS Field Maps on an iPad 6 was used to navigate the survey area; close-up photographs of nests and birds were collected using a Canon Powershot SX710HS; binoculars (8×42), and a spotting scope (20-60×60) were used to observe birds, locate nests, and aid in the identification of wildlife observed on the Project site. Trees and known nests (documented during the Period I and III surveys) were surveyed from multiple angles to increase the chance of detecting nests or raptors, and windows were rolled down during windshield surveys to allow hearing raptor vocalizations. Observations of individuals and activity at nests were documented in the survey area.

2.3.3 Burrowing Owl Nest Survey

ICF biologists Kaitlin Kozlowski, ~~and~~ Austin Kozlowski, Michael Scaffidi, and Arin Phillips conducted surveys in accordance with the recommendations in Appendix D of the California Department of Fish and Game's (now CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Breeding season and non-breeding season surveys were conducted over two years in 2024 and 2025. During 2024, breeding season surveys were ~~Survey 1 was~~ conducted on May 23-24, 2024, ~~Survey 2 was conducted on~~ June 17, 2024, and ~~Survey 3 was conducted on~~ July 10, 2204. An additional breeding season survey was conducted on February 18, 2025 to complete at least 4 breeding season surveys, consistent with the recommendations in the CDFW Staff Report. Non-breeding season surveys were conducted 4 times consistent with the recommendations in the CDFW Staff Report on December 23, 2024, January 7, 2025, January 17, 2025, and January 31, 2025. The survey area consisted of a 500-foot buffer of all Project components, including the PG&E Corby Bay Expansion Area, transmission and gen-tie lines/corridors, gen-tie laydown areas, and the area within the Project boundary (Figure

2). Biologists conducted the surveys on foot and used binoculars (10×42) throughout the surveys and a spotting scope (20-60×60) as needed to maximize visual coverage of inaccessible portions of the survey area and to aid in wildlife identification. Access to select parcels within the 500-foot buffer along Kilkenny Road and Byrnes Road were restricted due to private property, so these portions of the survey area were assessed from the road and adjacent parcels where access was provided.

The biologists assessed the suitability of habitat within the survey area to support burrowing owl use. In addition, observations of burrowing owls, burrows of sufficient size for burrowing owl use, and any burrow surrogates (e.g., culverts or pipes large enough to allow owl use but small enough to exclude predators, rubble piles) were documented, if present. Any sign of burrowing owl presence (e.g., tracks, feathers, whitewash, cast pellets, prey remains, egg and shell fragments, nest burrow decoration materials, and possible perches) at or near the burrow(s) and/or burrow surrogates were also recorded. Opportunistic observations of other occupied raptor nests were also noted. GPS coordinates of suitable burrows and burrow surrogates, burrowing owl observations, and occupied raptor nests were recorded from an iPhone 13 mini and iPad 10 using the ArcGIS Field Maps application. Photographs were taken on an iPhone 13 mini and a Canon R6 camera with a 70–200mm lens to aid in documentation of habitat, burrowing owls and/or signs of their presence, and observations of other raptors.

2.4 Aquatic Resources Assessment

A preliminary aquatic resource assessment to identify potential Waters of the U.S. and Waters of the State was conducted within the Project Area concurrent with the reconnaissance-level field survey conducted by ICF Biologist Rachel Bennett on June 1, 2023. The survey was conducted on foot using both maps and aerial imagery to look for evidence of aquatic resources, wetland vegetation, hydrology, streams, and bed and bank features. All aquatic resources identified were mapped using ArcGIS Field Maps.

Following the preliminary aquatic resources assessment, a formal delineation field effort was conducted on May 28, 2024, by ICF wetland ecologist Joe Sanders. During the fieldwork, Mr. Sanders surveyed the entire Study Area, such that visual coverage was 100%. The interior of the PG&E substation was not accessible so that area was delineated remotely. The delineation field work and mapping were consistent with the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), as well as the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0; USACE 2008). In order to be classified as a "wetland" under the 1987 Manual and Regional Supplement, an area must normally have evidence of 1) wetland hydrology, 2) hydric soil indicators, and 3) wetland vegetation.

Vascular plants were identified using the Jepson Manual: Vascular Plants of California (Baldwin et al. 2012), and nomenclature and associated wetland ratings follow the National Wetland Plant List (USACE 2022). Field data were collected in the Study Area representative of the vegetation, soils, and hydrology across the vegetation communities and feature types. Representative photographs of the Study Area are included as Appendix C.

All accessible features, including data points, aquatic feature extents and vegetation communities were recorded using a Global Positioning System unit (EOS Arrow 100) with real-time differential correction and an instrument-rated mapping accuracy of less than 1 meter. Features that were not accessible were remotely mapped. Acreage of aquatic features were calculated using ArcGIS. Survey

results of the wetlands and other waters of the U.S. found in the Project Area are briefly described in Section 3.2; the full delineation report is included in Appendix D.

2.5 Special-Status Species Assessment

Tables 1 and 2 in Chapter 3, *Results*, list the special-status species that have potential to occur in the Project Area. Each species was evaluated for its potential to occur in the Project Area through literature review and field observations and is categorized as defined below.

- **None/Absent:** No suitable habitat (including soils & elevation) and/or the species is not known to occur within the vicinity of the Project Area based on CNDDB records or other documentation.
- **Low:** Species is not likely to occur because of marginal habitat quality, distance from known occurrences, or lack of recent occurrences within or in the vicinity of the Project Area.
- **Moderate:** Some or all of the species' life history requirements are provided by habitat in the Project Area; populations may not be known to occur in the Project Area or immediate vicinity but are known to occur in the region.
- **High/Present**: All of the species' life history requirements can be met by habitat present in the Project Area, populations are known to occur in the Project Area or immediate vicinity, and/or species was observed during surveys in the vicinity of the Project Area.

Species determined to have a moderate or high likelihood to occur or were observed during field surveys are discussed in greater detail in separate sections.

Chapter 3
Results

3.1 Land Cover Types

A *land cover type* is defined as the dominant character of the land surface discernible from aerial photographs and field verified, as determined by vegetation, water, or human uses. Land cover types are the most widely used units in analyzing ecosystem function, habitat diversity, natural communities, wetlands and streams, and covered species habitat. Vegetation communities or land cover types observed within the Project Area included five upland land cover types and four aquatic land cover types (Figure 3).

3.1.1 Upland Land Cover Types

Upland land cover types were the dominant land cover group in the Project Area. The heavily managed landscape is consistent with the developed nature of land cover along and directly adjacent to the I-80 corridor. Five broad upland land cover types were classified within the Project Area including annual grassland, developed/disturbed, fallow farmland, non-native forest and orchard. Land cover types within the Project Area are consistent with types found within the Study Area and were not classified as sensitive per CDFW, CNPS, or other designations.

3.1.1.1 Annual Grassland

Annual grasslands consisted primarily of non-native grass species and occurred around the PG&E substation and dominated by non-native annual grasses and forbs including wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), cheatgrass (*Bromus tectorum*) yellow star thistle (*Centaurea solstitialis*), radish (*Raphanus* sp.) and filarees (*Erodium* spp.).

3.1.1.2 Developed/Disturbed

Developed/disturbed areas within the Project Area included portions along the gen-tie route that intersected with I-80 and the Vaca-Dixon substation which is located north of I-80 and includes the substation expansion. Narrow margins along roads and fields where vegetation management and other reoccurring disturbance occurs were also considered developed/disturbed.

3.1.1.3 Fallow Farmland

Fallow farmland was land that was not currently being used for crop cultivation in the current vegetation cycle. The 65-acre battery storage area is almost entirely composed of fallow farmland.

3.1.1.4 Non-Native Forest

Non-native forest was located along the northern margin of I-80 and was dominated by olive trees (*Olea europea*) and red gum (*Eucalyptus camaldulensis*) with oleander (*Nerium oleander*) and other non-native and ruderal plant species.

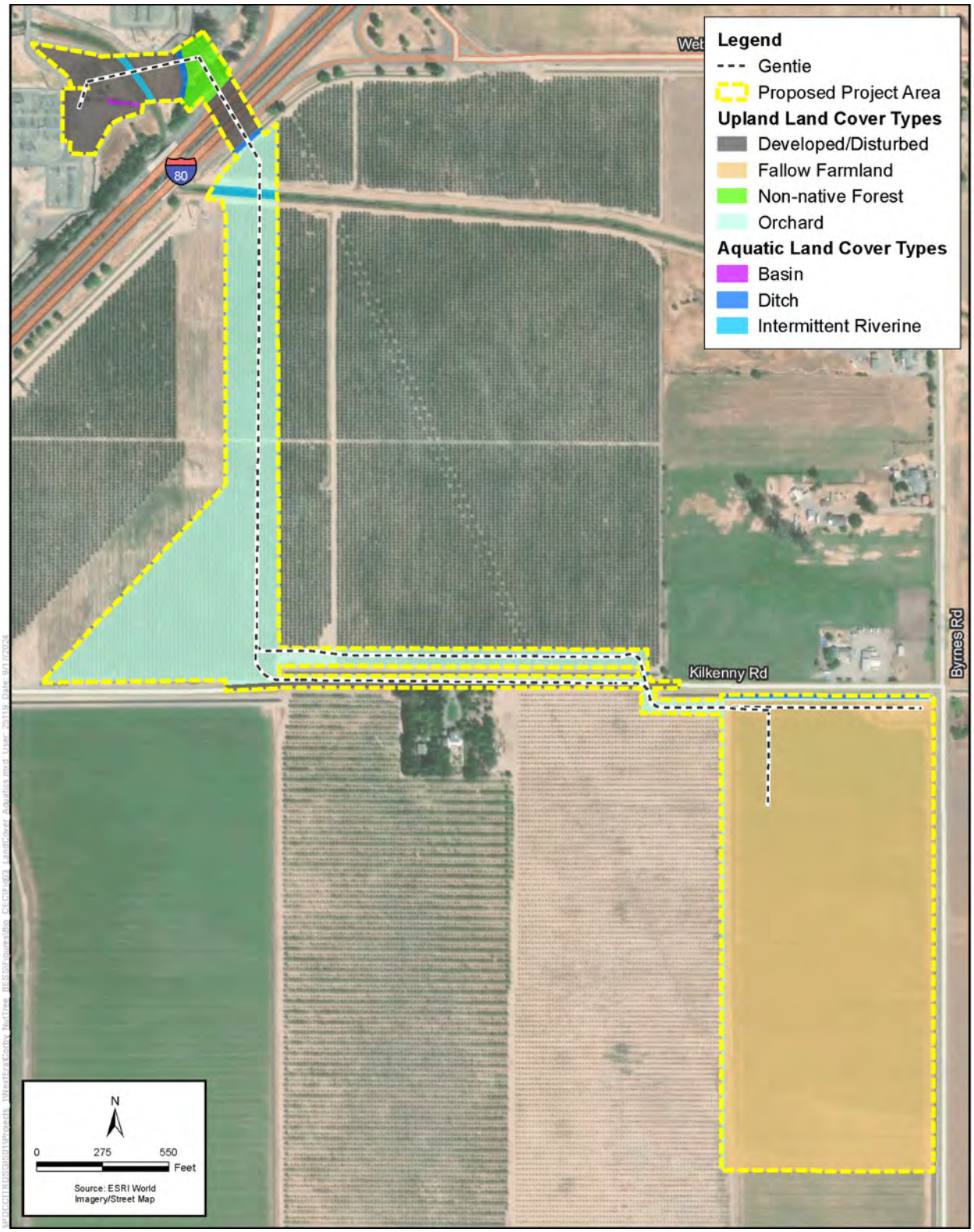


Figure 3. Land Cover/Aquatic Features

3.1.1.5 Orchard

Orchard (almond, cherry/plum) accounts for a large portion of the Project Area where the gen-tie line will be constructed. There is orchard to the west and northwest of the battery storage site. Orchard accounts for a small portion along the western side of the 65-acre battery storage area.

3.1.2 Aquatic Land Cover Types

Aquatic land cover types within 250 feet of the Project Area represented 1.69% of the wetland delineation area. Four types of aquatic resources were delineated for a total of 2.96 acres within 175.05 acres that included the Project Area and lands within 250 feet (Figure 4). Aquatic land cover types consisted of the following:

- 0.02 acre of basin;
- 1.932 acres of ditches;
- 0.932 acres of intermittent riverine; and
- 0.076 acre of seasonal wetland.

Characteristics of aquatic resources were general isolated, ephemeral or intermittent and confined to defined channels. Full results of the field delineation are presented in Appendix D and include figures, supporting climate and rainfall data, soils report, photographs, and data forms. The following sections include a brief description of each aquatic land cover type.

3.1.2.1 Basin

There was one mapped basin in the Study Area encompassing 0.02 acre. The feature occurs within the PG&E substation and was not observable during the field survey. The feature was mapped using aerial imagery. This feature likely drains surface runoff from the substation and could regularly be maintained, and it appears to be excavated in uplands. This feature does not fit well within the Cowardin classification system (Cowardin et al. 1979).

3.1.2.2 Ditch

There were 13 mapped ditches in the Study Area encompassing 1.932 acres. Features outside of the substation were mapped based on the presence of an ordinary high-water mark and features within the substation were mapped remotely. These features either receive pumped water for irrigation purposes, drain impervious areas within the substation, or drain orchards. Mapped ditches vary in their bottom composition including both concrete-lined bottoms and soil bottoms. These features appear to be subject to regular maintenance and are excavated in uplands. None of the mapped ditches appear to be realigned natural features. These features do not fit well within the Cowardin classification system (Cowardin et al. 1979).

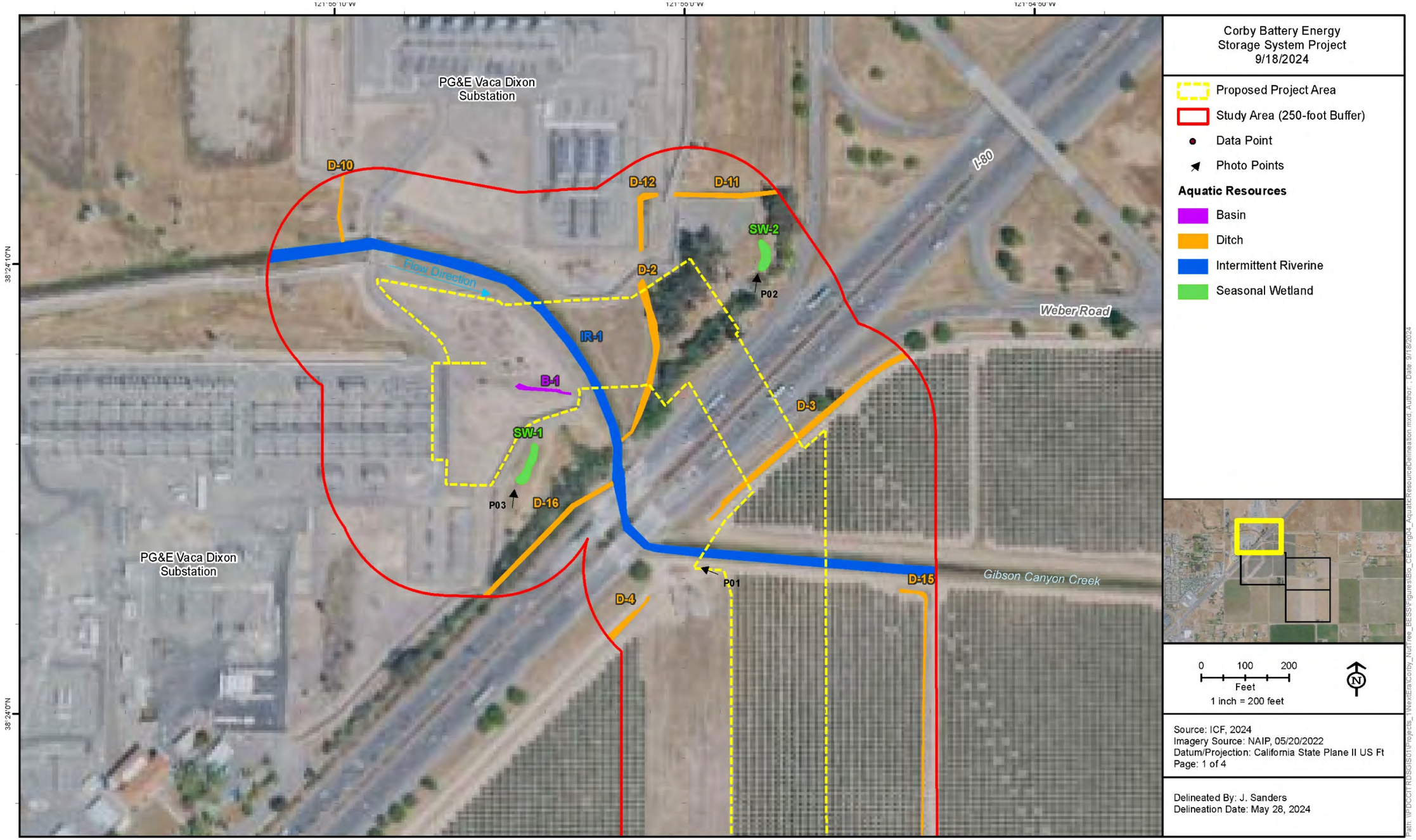


Figure 4. Aquatic Resources Delineation Map, Sheet 1 of 4

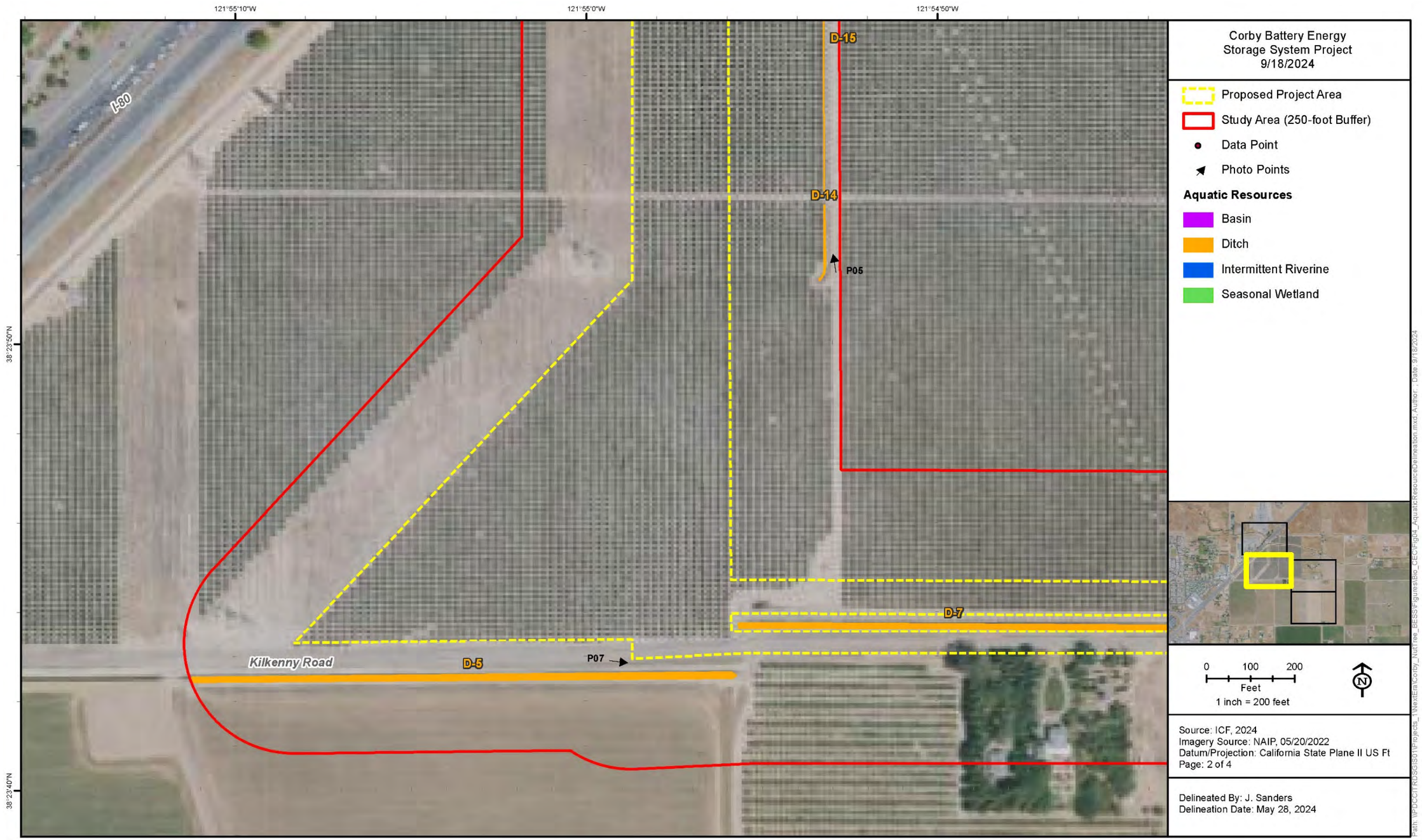


Figure 4. Aquatic Resources Delineation Map, Sheet 2 of 4

Figure 4. Aquatic Resources Delineation Map, Sheet 3 of 4

Figure 4. Aquatic Resources Delineation Map, Sheet 4 of 4

3.1.2.3 Intermittent Riverine

There was one mapped occurrence of an intermittent riverine feature encompassing 0.932 acres and is a reach of Gibson-Canyon Creek. This feature is identified on a USGS map as a dotted blue line, indicating an intermittent hydrologic regime. This feature likely flows part of the year and dries up in the late summer. Low flows were observed during the May 28, 2024 survey. This feature appears to be subject to some maintenance as the banks are mostly straight and some of it is concrete lined, which indicates some realignment of this feature. This feature was mapped in the field based on the presence of an ordinary high-water mark. This feature could be classified as *riverine, intermittent* by the Cowardin classification system (Cowardin et al. 1979).

3.1.2.4 Seasonal Wetland

There were two mapped seasonal wetlands present in the Study Area encompassing 0.076 acres. Both features occur near but on the exterior of the substation. Both features were dominated by hydrophytic vegetation including creeping wildrye (*Elymus triticoides*), curly dock (*Rumex crispus*), hyssop loosestrife (*Lythrum hyssopifolia*), and seaside barley (*Hordeum marinum*). Prevalent algal matting was observed within both mapped seasonal wetlands. No formal data points were collected within these features due to sensitive underground infrastructure nearby but were mapped based on the presence hydrophytic vegetation and primary hydrology indicators and were bounded by upland non-native annual grassland. These features could be classified as *Palustrine, Emergent* by the Cowardin classification system (Cowardin et al. 1979).

3.2 Sensitive Natural Communities

Four sensitive natural communities for a total 12 occurrences have been documented to occur within the 13 USGS quadrangles that overlap the 10-mile Study Area (CDFW 2024b). Sensitive Natural Communities include Coastal and Valley Freshwater Marsh (1 occurrence), Coastal Brackish Marsh (3 occurrence), Valley Needlegrass Grassland (4 occurrences), and Northern Claypan Vernal Pool (4 occurrences). No occurrences of natural communities have been reported from the Allendale 7.5-minute USGS quadrangle where the Project is located. The nearest sensitive plant community is Valley Needlegrass Grassland community 6.5 miles south of the Project Area within the Jepson Grasslands managed by the Solano Lands Trust. Based on field surveys, aerial imagery, and historical occurrences, no sensitive natural communities or riparian habitat are present within or 1 mile from the Project Area.

The Project Area is not located within an Important Bird Area as classified by the Audubon Society (Audubon 2024). The nearest IBA is the globally important Jepson Grasslands located 6.5 mi south of the Project Area, at the nearest point. The grasslands surround Travis Airforce Base and connect a matrix of dry agricultural fields and pastureland to the edge of the San Pablo Delta ecosystem.

The Project Area is not located within USFWS designated critical habitat for any federally list wildlife or plant species (USFWS 2024a). The nearest designated critical habitat is for delta smelt (*Hypomesus transpacificus*) located 3.5 miles east of the Project Area, at the nearest point. Delta smelt critical habitat is expansive, covering hundreds of square miles of aquatic and upland habitat along waterways of the eastern San Fransisco Bay Area and interior valleys.

3.3 Wildlife Movement and Connectivity

A functional network of connected wildlands is essential to continued support of California's diverse natural communities in the face of human development and climate change. Corridors along drainages, valleys, and other features facilitate wildlife movement and connectivity between areas of suitable habitat; the corridors (e.g., linkages) and associated habitats are essential to population viability.

Multiple conservation planning initiatives modeled wildlife connectivity and movement in the greater San Fransisco Bay Area including Solano County, where the Project is located (CDFW 2024c; Penrod et al. 2001, 2013; Spencer et al. 2010). Models identified large areas of relatively natural habitat blocks that support native biodiversity (landscape blocks) and areas essential for ecological connectivity between them (linkages). Ecologically high-value areas within landscape blocks and linkages that lack formal protection but are essential to movement and connectivity were identified as part of the Critical Linkages Network. Although there is no definitive model to evaluate conservation planning opportunities for wildlife, various California assembly bills and pieces of legislation[1] have passed that require wildlife movement and habitat connectivity to be considered during permitting and land management actions.

A coalition of more than 125 organizations built upon previous modeling efforts to identify wildlife movement and habitat connectivity in the nine-county San Fransisco Bay Area and regions to the north and south to identify connectivity to the broader landscape (Penrod et al. 2013). Landscape blocks and linkages were modeled using a hierarchical framework that incorporated biological and human-built environments, including species-specific connectivity models for state and federal special status species. Potential cores and patches of breeding habitat were identified for each species. Potential breeding habitat was defined as an area that had a high habitat suitability ranking and was large enough to support breeding and other activities within the focal species' home range or territory. Potential breeding habitat was categorized in two size classes: 1) *potential core*, defined as a continuous area of suitable habitat large enough to sustain at least 50 individuals; potential cores are probably capable of supporting the species for several generations, and 2) *breeding patch*, defined as an area of suitable habitat large enough to support successful reproduction by a pair of individuals (perhaps more if home ranges overlap greatly) but smaller than a potential core area. Patches are useful to the species if they are linked through dispersal to other patches and core areas. Areas that did not meet the requirements for a potential core or breeding patch but still contributed to the landscape design were considered *less than patch*.

According to connectivity models, wildlife movement corridors and linkages that connect areas of suitable wildlife habitat are absent within the Project Area. The Project Area and immediate surrounding area is classified by CDFW's Terrestrial Connectivity Areas of Conservation Emphasis (ACE) as having limited connectivity opportunity (CDFW 2024c). No big game migration data from CDFW suggests this area is an important linkage or corridor for big game species. The Project Area is outside essential connectivity areas, natural landscape blocks and least cost corridors or linkages as modeled by the California Essential Habitat Connectivity Project and associated models (Spencer et al. 2010, Penrod et al. 2013). The highly modified landscape along the I-80 corridor includes

[1] AB-2785 Wildlife Conservation: Habitat Connectivity (2008); AB-498 Wildlife Conservation: Wildlife Corridors (2015); AB-2087 Regional Conservation Investment Strategies (2016); CA Fish and Game Code §1930.5 (2021); SB-790 Wildlife Connectivity Actions: Compensatory Mitigation Credits (2021)

fragmented habitat, transportation barriers, and anthropogenic disturbances that contribute to the low biological value for wildlife movement and habitat connectivity.

3.4 Special-Status Species

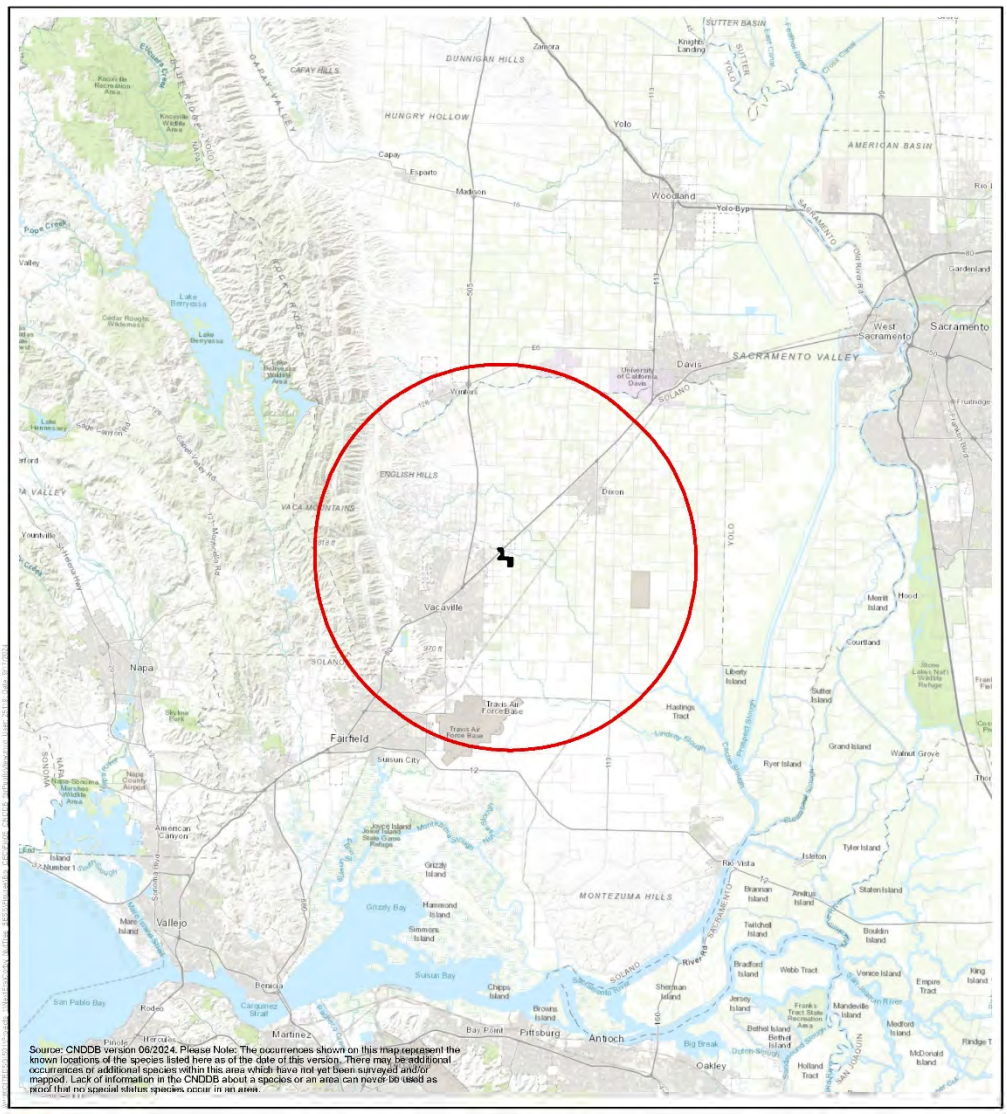
Reviews of species lists from CDFW, CNPS, and USFWS returned 34 special-status plant species, 2 sensitive natural communities, and 33 special-status wildlife species that occurred within the 10 mile Study Area (Table 2) (Figure 5). Following the dicot plant group, the bird group had the second highest number of special-status species but the greatest number of records of all groups, primarily composed of Swainson's hawk (63%) and burrowing owl (28%).

Based on the results of the CNDDB records search and biological surveys performed during the site visits, no special-status plant species were identified as having a moderate or high potential to occur within the Project Area (Table 3). ICF identified three bird species to have a moderate or high/present potential to occur within the Project Area including burrowing owl, Swainson's hawk, and white-tailed kite (Table 4). These species are discussed below in greater detail. None of the 36 special-status plant species are anticipated to occur within the Project Area. Combined with the highly developed/disturbed characteristics of the Project Area, specialized habitat requirements (e.g., vernal pools or serpentine soils), elevational differences, and other factors that influenced the unique niche requirements of rare plants excluded nearly all species documented in the Study Area and broader 13 USGS quadrangle area.

Table 2. Special-status animal and plant species within the 10-mile Study Area of the Corby Energy Battery Storage System, Solano County, California.

Species Group	# Species	# Records
Animals		
Amphibians	2	52
Birds	11	315
Crustaceans	5	93
Insects	8	34
Mammals	4	6
Mollusks	1	1
Reptiles	2	18
Sub-total	*33*	*519*
Plants		
Dicots	28	137
Monocots	6	15
Sensitive Communities	2	4
Sub-total	*36*	*156*
Grand Total	69	675

Source: CDFW CNDDB 2024b



10-Mile Buffer

The following species are known to occur within this area:

- American badger
- American bumble bee
- American peregrine falcon
- Baker's navarretia
- Blennosperma vernal pool andrenid bee
- Boggs Lake hedge-hyssop
- Bolander's water-hemlock
- Brewer's western flax
- California alkali grass
- California linderiella
- California tiger salamander - central California DPS
- Carquinez goldenbush
- Colusa grass
- Conservancy fairy shrimp
- Contra Costa goldfields
- Coulter's goldfields
- Crampton's tuctoria or Solano grass
- Crotch's bumble bee
- Delta green ground beetle
- Ferris' milk-vetch
- Heckard's pepper-grass
- Keck's checkerbloom
- Mason's lilaeopsis
- Northern Claypan Vernal Pool
- Ricksecker's water scavenger beetle
- San Joaquin Valley Orcutt grass
- San Joaquin spearscale
- Suisun Marsh aster
- Swainson's hawk
- Townsend's big-eared bat
- Valley Needlegrass Grassland
- Wilbur Springs shorebug
- Yuma myotis
- adobe-lily
- alkali milk-vetch
- alkali-sink goldfields
- bald eagle
- bearded popcornflower
- brittlescale
- burrowing owl
- dwarf downingia
- foothill yellow-legged frog - north coast DPS
- fragrant fritillary
- giant gartersnake
- grasshopper sparrow
- great egret
- green sturgeon - southern DPS
- heartscale
- hispid salty bird's-beak
- legenere
- midvalley fairy shrimp
- mountain plover
- northern harrier
- oval-leaved viburnum
- pappose tarplant
- recurved larkspur
- saline clover
- tricolored blackbird
- two-fork clover
- valley elderberry longhorn beetle
- vernal pool fairy shrimp
- vernal pool smallscale
- vernal pool tadpole shrimp
- western bumble bee
- western pond turtle
- western red bat
- western ridged mussel
- white-tailed kite
- woolly rose-mallow
- yellow-breasted chat

ICF N 0 2.5 5 Miles 1:350,000

Figure 5. CNBBD Occurrences within 10 Miles of Project Area (Public Version)

Table 3. Special-Status Plants Known to Occur or with Potential to Occur within the Nine-Quad Vicinity of the Project Area

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Modest rockcress *Arabis modesta*	–/–/4.3/G3/S3	Lake, Napa, Siskiyou, Solano, and Trinity counties.	Chaparral and lower montane coniferous forest; 395–2,625 feet.	Mar–July	**None**. No potential habitat present, outside known elevation range of species.
Contra Costa Manzanita *Arctostaphylos manzanita ssp. Laevigata*	–/–/1B.2/G5T2/S2	Found only in Contra Costa County.	Rocky chaparral; 1410–3,610 feet.	Jan–Mar	**None**. No potential habitat present, outside known elevation range of species.
Ferris' milk-vetch *Astragalus tener* var. *ferrisiae*	–/–/1B.1/G2T1/S1	Butte, Glenn, Colusa, and Yolo counties.	Meadows and seeps (vernally mesic), valley and foothill grassland, which is occasionally subalkaline flats; 5–245 feet.	April–May	**None**. No potential habitat present. 1 record in Study Area.
Alkali milk-vetch *Astragalus tener* var. *tener*	–/–/1B.2/G2T1/S1	Merced, Solano, and Yolo counties.	Playas and grasslands with adobe clay soils and alkaline vernal pools; 5–195 feet.	Mar–June	**None.** No potential habitat present. 17 records in Study Area.
Heartscale *Atriplex cordulata var. cordulata*	–/–/1B.2/G3T2/S2	Western Central Valley and valleys of adjacent foothills.	Alkaline flats and scalds, sandy soils in Chenopod scrub, valley and foothill grassland, meadows and seeps; below 1,835 feet.	April–Oct	**None**. No potential habitat present. 4 records in Study Area.
Crownscale *Atriplex coronata var. coronata*	–/–/4.2/G4T3/S3	Inland valleys and foothills; Alameda, Contra Costa, Fresno, Kern, Kings, Merced, Monterey, San Benito, San Luis Obispo, Solano, Stanislaus, Tulare counties.	Chenopod scrub, Valley and foothill grassland, Vernal pools; 5–1,935 feet.	Mar–Oct	**None**. No potential habitat present.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Brittlescale *Atriplex depressa*	–/–/1B.2/G2/S2	Western Central Valley and valleys in foothills on west side of Central Valley.	Mesic areas in alkali grassland, alkali meadow, and alkali scrub; 5–1,050 feet.	May–Oct	**None**. No potential habitat present. 5 records in Study Area.
Vernal pool smallscale *Atriplex persistens*	–/–/1B.2/G2/S2	Colusa, Glenn, Madera, Merced, Solano, and Tulare Counties. Likely extirpated from Stanislaus County.	Alkaline vernal pools; 35–375 feet.	June–Oct	**None.** No potential habitat present. 3 records in Study Area.
Pappose tarplant *Centromadia parryi* ssp. *parryi*	–/–/1B.2/G3T2/S2	North and Central Coast Ranges, the southern Sacramento Valley; occurrences in Butte, Colusa, Glenn, Lake, Napa, San Mateo, and Solano counties.	Chaparral, coastal prairie, coastal salt marshes and swamps, meadows and seeps, alkaline soils in vernally mesic valley and foothill grassland; below 1,380 feet.	May–Nov	**None**. No potential habitat present. 4 records in Study Area.
Parry's rough tarplant *Centromadia parryi* ssp. *rudis*	–/–/4.2/G3T3/S3	Western Central Valley including Butte, Colusa, Glenn, Lake, Merced, Modoc, Sacramento, San Joaquin, Stanislaus, and Yolo counties.	Vernal pools, valley and foothill grassland; below 330 feet.	May–Oct	**None**. No potential habitat present.
Hispid salty bird's beak *Chloropyron mole* ssp. *hispidum*	–/–/1B.1/G2T1/S1	Alameda, Kern, Merced, Placer, and Solano counties.	Meadows and seeps (alkaline), playas, valley and foothill grasslands; 5–510 feet.	June–Sept	**None**. No potential habitat present. 1 record in Study Area.
Soft salty bird's-beak *Chloropyron molle ssp. molle*	E/CR/1B.2/G2T1/S1	Contra Costa, Napa, Solano, and Sonoma counties	Marshes and swamps (coastal salt); below 10 feet.	Jun-Nov	**None**. No potential habitat present.
Bolander's water-hemlock *Cicuta maculate* var. *bolanderi*	–/–/ 2B.1/G5T4T5/S2?	Northern/eastern San Francisco Bay area and Western Central Valley including Contra Costa, Marin, Sacramento, and Solano Counties.	Brackish, coastal, and freshwater marshes and swamps; below 655 feet.	July–Sept	**None**. No potential habitat present. 1 record in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Suisun thistle *Cirsium hydrophilum var. hydrophilum*	E/–/1B.1/G2T1/S1	Southern Solano County	Marshes and swamps (salt); below 5 feet.	Jun-Sep	**None**. No potential habitat present.
Recurved larkspur *Delphinium recurvatum*	–/–/1B.2/G2?/S2?	East Bay south through Santa Barbara and San Luis Obispo counties.	Alkaline soils in chenopod scrub, cismontane woodland, valley and foothill grassland; 10–2,590 feet.	Mar–June	**None**. No potential habitat present. 1 record in Study Area.
Dwarf downingia *Downingia pusilla*	–/–/2B.2/GU/S2	Inner North Coast Ranges, southern Sacramento Valley, northern and central San Joaquin Valley.	Wet areas in valley and foothill grassland, vernal pools; 5–1,460 feet.	Mar–May	**None**. No potential habitat present. 17 records in Study Area.
Small spikerush *Eleocharis parvula*	–/–/4.3/G5/S3	Isolated over wide range in Alameda, Contra Costa, Humboldt, Marin, Napa, Orange, San Luis Obispo, Solano, Sonoma, and Ventura counties	Marshes and swamps; 5–910 feet.	Apr–Sep	**None**. No potential habitat present.
Jepson's coyote-thistle *Eryngium jepsonii*	–/–/ 1B.2/G2/S2	Alameda, Contra Costa, Napa, San Mateo, Solano, and Yolo counties	Valley and foothill grassland, Vernal pools; 10–985 feet.	Apr–Aug	**None**. No potential habitat present
San Joaquin spearscale *Extriplex joaquinana*	–/–/1B.2/G2/S2	Eastern San Francisco Bay Area, west edge of Central Valley from Glenn County to Fresno County.	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland; 5–2,740 feet.	Apr–Oct	**None**. No potential habitat present. 4 records in Study Area.
Stinkbells *Fritillaria agrestis*	–/–/4.2/G2/S2	Alameda, Contra Costa, Fresno, Kern, Mendocino, Monterey, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, San Luis Obispo, San Mateo, Stanislaus, and Tuolumne counties.	Chaparral, cismontane woodland, pinyon and juniper woodland, valley, and foothill grassland, on clay or serpentinite substrate; 35–5,100 feet.	Mar–June	**None**. No potential habitat present.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Fragrant fritillary *Fritillaria liliacea*	–/–/1B.2/G2/S2	San Francisco Bay Area from Sonoma County to Monterey County.	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland, often serpentinite; 10–1,345 feet.	Feb–Apr	**None**. No potential habitat present. 4 records in Study Area.
Adobe-lily *Fritillaria pluriflora*	–/–/ 1B.2/G2G3/S2S3	Northern Central Valley and Western edge of Central Valley including Butte, Colusa, Glenn, Lake, Napa, Solano, Tehama, and Yolo counties.	Chaparral, cismontane woodland, valley and foothill grassland, often adobe; 195–2,315 feet.	Feb–Apr	**None**. No potential habitat present, outside known elevational range of species. 2 records in Study Area.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	–/E/1B.2/G2/S2	Inner North Coast Ranges, Central Sierra Nevada foothills, Sacramento Valley and Modoc Plateau in Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama counties.	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 35–7,790 feet.	Apr–Aug	**None**. No potential habitat present. 6 records in Study Area.
Hogwallow starfish *Hesperevax caulescens*	–/–/4.2/G3/S3	Broadly ranging in California, primarily in Great Valley and adjacent foothills, also in South Coast Ranges, Peninsular Ranges.	Mesic clay soils in valley and foothill grassland, shallow vernal pools; below 1,655 feet.	Mar–June	**None**. No potential habitat present.
Brewer's western flax *Hesperolinon breweri*	–/–/1B.2/G2/S2	Alameda, Contra Costa, Napa, and Solano counties.	Generally serpentine slopes in chaparral and grasslands; 100–3,100 feet.	May–July	**None**. No potential habitat present. 2 records in Study Area.
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	–/–/1B.2/G5T3/S3	Central Valley, including the Delta, from Butte County to San Joaquin County.	Freshwater marshes and swamps; below 395 feet.	June–Sep	**None**. No potential habitat present. 1 record in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Carquinez goldenbush *Isocoma arguta*	–/–/1B.1/G1/S1	Contra Costa and Solano counties.	Alkaline soils in valley and foothill grasslands; 5–65 feet.	Aug–Dec	**None**. No potential habitat present. 4 records in Study Area.
Alkali-sink goldfields *Lasthenia chrysantha*	–/–/1B.1/G2/S2	Fresno, Kern, Kings, Madera, Merced, Sacramento, Solano, Stanislaus, Tulare counties.	Vernal pools; below 655 feet.	Feb–Apr	**None**. No vernal pools present. 2 records in Study Area.
Contra Costa goldfields *Lasthenia conjugens*	E/–/1B.1/G1/S1	Alameda, Contra Costa, Marin, Monterey, Napa, Solano, and Sonoma counties.	Mesic areas in Cismontane woodland, alkaline playas, valley and foothill grassland, and vernal pools; below 1,540 feet.	Mar–June	**None**. No potential habitat present. 8 records in Study Area.
Ferris' goldfields *Lasthenia farrisiae*	–/–/4.2/G3/S3	Central Valley, east San Francisco Bay Area, eastern edge Central Coast.	Vernal pools; 65–2,295 feet.	Feb–May	**None**. No vernal pools present.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	–/–/1B.1/G4T2/S2	Through Central Valley, primarily distributed along Southern California coast.	Coastal salt marshes and swamps, playas, vernal pools; 5–405 feet.	Feb–June	**None**. No potential habitat present. 1 record in Study Area.
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	–/–/1B.2/G5T2/S2	San Francisco east bay and western edge of Central Valley.	Brackish and freshwater marshes and swamps; below 15 feet.	May–July	**None.** No potential habitat present.
Colusa layia *Layia septentrionalis*	–/–/1B.2/G2/S2	Sacramento Valley and northern Bay Area.	Sandy, serpentinite soil in chaparral, cismontane woodland, valley and foothill grassland; 330–3,595 feet.	Apr–May	**None.** No potential habitats present, outside known elevational range of species.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Legenere *Legenere limosa*	–/–/1B.1/G2/S2	Lower Sacramento Valley, also from North Coast Ranges, northern San Joaquin Valley, and the Santa Cruz Mountains.	Vernal pools; 5–2,885 feet.	Apr–June	**None**. No vernal pools present. 8 records in Study Area.
Heckard's pepper-grass *Lepidium latipes* var. *heckardii*	–/–/1B.2/G4T1/S1	Southern Sacramento Valley in Glenn, Merced, Sacramento, Solano, and Yolo counties.	Alkaline flats in valley and foothill grassland; 5–655 feet.	Mar–May	**None.** No potential habitat present. 2 records in Study Area.
Bristly leptosiphon *Leptosiphon aureus*	–/–/4.2/G4?/S4?	Bay Area and North Coast predominately, scattered occurrences in Central Valley.	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; 180–4,920 feet.	Apr–July	**None.** No potential habitats present, outside known elevational range of species.
Jepson's leptosiphon *Leptosiphon jepsonii*	–/–/1B.2/G2G3/S2S3	Lake, Napa, Solano, Sonoma, and Yolo counties.	Usually volcanic, chaparral, cismontane woodland, valley and foothill grassland; 330–1,640 feet.	Mar–May	**None.** No potential habitats present, outside known elevational range of species.
woolly-headed lessingia *Lessingia hololeuca*	–/–/3/G2G3/S2S3	Coastal mountains, SF Bay Area, and inland valleys including Solano and Yolo counties	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; 50–1,000 feet.	Jun–Oct	**None** Typically found in clay and serpentine soils which are not present.
Mason's lilaeopsis *Lilaeopsis masonii*	–/CR/1B.1/G2/S2	Southern Sacramento Valley, Sacramento–San Joaquin River Delta, northeast San Francisco Bay Area in Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, and Yolo counties.	Freshwater or brackish marsh, riparian scrub, in tidal zone; below 35 feet.	Apr–Nov	**None.** No potential habitat present. 1 record in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Delta mudwort *Limosella australis*	–/–/2B.1/G4G5/S2	Contra Costa, Sacramento, San Joaquin, and Solano counties.	Usually streambanks or mud banks, freshwater or brackish marshes and swamps, riparian scrub; below 10 feet.	May–Aug	**Low**. Gibson-Canyon Creek may provide marginal habitat.
Napa lomatium *Lomatium repostum*	–/–/4.2/G2G3/S2S3	Lake, Napa, Solano, and Sonoma counties.	Flat to steep slopes in chaparral, broadleafed upland forest, and cismontane woodland; 295–4,725 feet.	Mar–June	**None.** No potential habitats present, outside known elevational range of species.
Heller's bush-mallow *Malacothamnus helleri*	–/–/3.3/G2Q/S2	Colusa, Lake, Napa, and Yolo counties.	Chaparral (sandstone), riparian woodland (gravel); 1,000–2,085 feet.	May–July	**None.** No potential habitats present, outside known elevational range of species.
Three-ranked hump moss *Meesia triquetra*	–/–/4.2/G5/S4	Eastern valley foothills and Sierra Nevada Mountain. Southern Solano County occurrence in Delta region.	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic); 4,265–9690 feet.	July	**None.** No potential habitats present, outside known elevational range of species.
Marsh microseris *Microseris paludosa*	–/–/1B.2/G2/S2	Along coast and into coastal foothills; rare Solano County occurrence associated with Delta.	Cismontane woodland, Closed-cone coniferous forest, Coastal scrub, Valley and foothill grassland. 15–1,165 feet	Apr–Jul	**None.** No potential habitats present.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Sylvan microseris *Microseris sylvatica*	–/–/4.2/G4/S4	Alameda, Butte, Contra Costa, Fresno, Kern, Napa, San Benito, Tulare, and Yolo counties.	Chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, valley and foothill grassland; 150–4,920 feet.	Mar–June	**None.** No potential habitats present.
Little mousetail *Myosurus minimus* ssp. *apus*	–/–/3.1/G5T2Q/S2	Central Valley and South Coast from Butte County south to San Diego County; Baja California.	Valley and foothill grassland, alkaline vernal pools; 65–2,100 feet.	Mar–June	**None.** No potential habitats present.
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	–/–/1B.1/G4T2/S2	Inner North Coast Range, western Sacramento Valley: Colusa, Glenn, Lake, Mendocino, Marin, Napa, Solano, Sonoma, Tehama, and Yolo counties.	In mesic areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools; 15–571 feet.	Apr–June	**None**. No potential habitat present. 14 records in Study Area.
Colusa grass *Neostapfia colusana*	T/E/1B.1/G1/S1	Central Valley with scattered occurrences from Colusa to Merced counties.	Vernal pools, in adobe clay soils; 15–655 feet.	May–Aug	**None**. No vernal pools present. 4 records in Study Area.
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	T/E/1B.1/G1/S1	Fresno, Madera, Merced, Solano, and Tulare counties.	Vernal pools; 35–2,475 feet.	Apr–Sept	**None**. No vernal pools present. 1 record in Study Area.
Gairdner's yampah *Perideridia gairdneri* ssp. *gairdneri*	–/–/ 4.2/G5T3T4/S3S4	Southern North Coast, Bay Area, and Central Coast.	Vernally mesic, broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools; 0–2,000 feet.	June–Oct	**None**. No potential habitat present.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Bearded popcornflower *Plagiobothrys hystriculus*	–/–/1B.1/G2/S2	Montezuma Hills in Napa, Solano, and Yolo counties.	Mesic valley and foothill grassland, vernal pool margins; below 900 feet.	Apr–May	**None**. No potential habitat present. 11 records in Study Area.
Delta woolly-marbles *Psilocarphus brevissimus var. multiflorus*	–/–/4.2/G4T3/S3	Solano and San Diego counties	Vernal pools; 35–1,640 feet.	May–June	**None**. No potential habitat present.
California alkali grass *Puccinellia simplex*	–/–/1B.2/G2/S2	San Francisco Bay Area, Great Valley, Tehachapi Mountains, western Mojave Desert.	Seasonally wet alkaline wetlands, sinks, flats, vernal pools, and lake margins; 5–3,050 feet.	Mar–May	**None**. No potential habitat present. 2 records in Study Area.
Lobb's aquatic buttercup *Ranunculus lobbii*	–/–/4.2/G4/S3	North Coast, Bay Area, northern Central Coast.	Mesic habitats in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools; 50–1,540 feet.	Feb–May	**None**. No potential habitat present.
Sanford's arrowhead *Sagittaria sanford*	–/–/1B.2/G3/S3	Northern CA through interior valleys into Los Angeles County; mostly extirpated.	Marshes and swamps (shallow freshwater); below 2,135 feet.	May–Nov	**None**. No potential habitat present.
Keck's checkerbloom *Sidalcea keckii*	E/–/1B.1/G2/S2	Fresno, Merced, and Tulare Counties; similar species from Inner North Coast Ranges in Colusa, Napa, Solano, and Yolo Counties treated as this species until further studies completed.	Cismontane woodland, valley and foothill grassland, in clay and serpentinine substrates; 245–2,135 feet.	Apr–May	**None**. No potential habitat present. 4 records in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Long-styled sand-spurrey *Spergularia macrotheca var. longistyla*	–/–/1B.2/G5T2/S2	Alameda, Contra Costa, Napa, and Solano counties	Marshes and swamps, Meadows and seeps; below 835 feet.	Feb–May	**None**. No potential habitat present.
Northern slender pondweed *Stuckenia filiformis* ssp. *alpina*	–/–/2B.2G5T5/S2S3	San Joaquin Valley, San Francisco Bay Area, and the central high Sierra Nevada.	Shallow freshwater marshes and swamps; 985–7,055 feet.	May–July	**None**. No potential habitat present.
Suisun Marsh aster *Symphyotrichum lentum*	–/–/1B.2/G2/S2	Sacramento–San Joaquin Delta, Suisun Marsh, Suisun Bay: Contra Costa, Napa, Sacramento, San Joaquin, and Solano counties.	Brackish and freshwater marshes and swamps; below 10 feet.	May–Nov	**None**. No potential habitat present. 4 records in Study Area.
Two-fork clover *Trifolium amoenum*	E/–/1B.1/G1/S1	Marin and San Mateo Counties, potentially extirpated from Napa, Solano, and Sonoma counties.	Coastal bluff scrub, valley and foothill grasslands (sometimes serpentinite); 15–1,360 feet.	Apr–June	**None**. No potential habitat present. 4 records in Study Area.
Saline clover *Trifolium hydrophilum*	–/–/1B.2/G2/S2	Sacramento Valley, central western California.	Marshes and swamps, mesic alkaline areas in valley and foothill grasslands, vernal pools; below 985 feet.	Apr–June	**None**. No potential habitat present. 6 records in Study Area.
Crampton's tuctoria *Tuctoria mucronata*	E/E/1B.1/G1/S1	Southwestern Sacramento Valley in Solano and Yolo counties.	Mesic valley and foothill grassland, vernal pools; 15–35 feet.	Apr–Aug	**None**. No potential habitat present. 2 records in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ CRPR/GR/SR	California Distribution	Habitats	Blooming Period	Likelihood to Occur in Project Area
Oval-leaved viburnum *Viburnum ellipticum*	–/–/2B.3/G4G5/S3?	Bay Area and central North Coast with scattered locations in the Central Valley and Shasta Area.	Chaparral, cismontane woodland, lower montane coniferous forest; 705–4,595 feet.	May–June	**None.** No potential habitat present, outside known elevational range of species. 1 record in Study Area.

Status explanations:

Federal List (USFWS)
- E = listed as endangered under ESA.
- T = listed as threatened under ESA.
- – = no listing.

State List (CDFW)
- E = listed as endangered under CESA.
- CR = listed as so rare that it may become endangered under CESA. Designation stems from the Native Plant Protection Act of 1977.
- – = no listing.

California Rare Plant Rank (CRPR; CNPS)
- 1A = List 1A species: presumed extinct in California.
- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
- 3 = List 3 species: more information is needed.
- 4 = List 4 plants: limited distribution of infrequent throughout a broader area in California.

CRPR Code Extensions:
- 0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat.
- 0.2 = fairly endangered in California (20–80% of occurrences threatened).
- 0.3 = not very threatened in California (less than 20% of occurrences threatened).

Global Rank (GR) (NatureServe)
- GX = presumed extinct: virtually no likelihood of rediscovery.
- GH = possibly extinct: known only from historical occurrences but still some hope of rediscovery.
- G1 = critically imperiled: very high risk of extinction due to extreme rarity (often 5 or fewer populations) steep declines, or other factors.
- G2 = imperiled: high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3 = vulnerable: moderate risk of extinction or elimination due to a restricted range, relatively few populations (often 80 or fewer), or other factors.
- G4 = apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 = secure: common; widespread and abundant.
- GNR = unranked: global rank not yet assessed.
- GU = unrankable: currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
- G#G# = range rank: numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty about the exact status of a taxon or community.

G#T# = infraspecific taxon: status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' Global Rank.
? = Qualifier: inexact numeric rank — represents a rank qualifier, denoting an inexact or uncertain numeric rank.
Q = Qualifier: questionable taxonomy — the distinctiveness at the current level is questionable.
C = Qualifier: captive or cultivated only — presumed or possibly extinct or eliminated in the wild but extant in cultivation or in captivity

State Rank (SR)(CNDDB)

SX = presumed extirpated: species believed to be extirpated from the state.
SH = possibly extirpated (Historical): species occurred historically in the state, and there is some possibility that it may be rediscovered.
S1 = critically imperiled: extreme rarity (often 5 or fewer occurrences) or other factor(s) making it especially vulnerable to extirpation.
S2 = imperiled: rarity (often 20 or fewer), or other factors making it very vulnerable to extirpation from the nation or state.
S3 = vulnerable: relatively few populations (often 80 or fewer), or other factors making it vulnerable to extirpation.
S4 = apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 = secure: common, widespread, and abundant in the state.
SNR = unranked: state conservation status not yet assessed.
SU = unrankable: unrankable due to a lack of information or due to substantially conflicting information about status or trends.
S#S# = range rank: numeric range rank (e.g., S2S3) used to indicate any range of uncertainty about the status of the species or community.
? = Qualifier: inexact or uncertain: — represents a rank qualifier, denoting an inexact or uncertain numeric rank.

Table 4. Special-Status Animals Known to Occur or with Potential to Occur within the Nine-Quad Vicinity of the Project Area

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E/–/G2/S2	Northern two-thirds of the Central Valley. It ranges from Vina Plains of Tehama County; Sacramento NWR in Glenn County; Jepson Prairie Preserve and surrounding area east of Travis Air Force Base, Solano County; Mapes Ranch west of Modesto, Stanislaus County.	Large vernal pools and seasonal wetlands, ~1 acre in size.	**None**. No vernal pool habitat within Project Area. 13 records in Study Area.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–/–/G3/S3	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County.	Common in vernal pools; also found in sandstone rock outcrop pools.	**None**. No vernal pool habitat within Project Area. 33 records in Study Area.
Vernal pool tadpole shrimp *Lepidurus packardi*	T/–/–/G3/S3	Shasta County south to Merced County.	Vernal pools and ephemeral stock ponds.	**None**. No vernal pool habitat within Project Area. 25 records in Study Area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/–/–/G3T3/S3	Throughout the Central Valley.	Riparian and oak savanna habitats with elderberry shrubs and streamside habitats below 3,000 feet above sea level. Elderberry shrub is the host plant.	**None**. Elderberry shrubs not observed in or around the Project Area. 7 records in Study Area.
Monarch butterfly *Danaus plexippus*	FC/–/–G4T1T2Q/S2	Throughout California and overwinter along the California Coast and central Mexico.	Open habitats including fields, meadows, weedy areas, marshes, and roadsides. Monarch butterflies roost in wind-protected tree groves (such as eucalyptus) with nectar and water sources nearby. Caterpillar host plants are native milkweeds.	**Low**. Adults may forage and migrate through the site, but no host milkweed plants were found in the Project Area during surveys.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Delta green ground beetle *Elaphrus viridis*	FT/–/–/G1/S1	Jepson Prairie Region of Solano County.	Large vernal pools, playa pools.	**None**. No vernal pool habitat within Project Area. 13 records in Study Area.
Crotch bumble bee *Bombus crotchii*	–/C/–/G2/S2	Throughout the Pacific Coast, Western Desert, and adjacent foothills throughout most of the state's southwestern region.	Found in open grassland and scrub. Nests underground in abandoned rodent burrows. Colonies are annual and only the newly mated queens overwinter. The queens emerge from hibernation in early spring to search for nest sites. Host plant food includes milkweed (*Asclepias* sp.), pincushion (*Chaenactis* sp.), lupine (*Lupinus* sp.), bur clover (*Medicago* sp.), phacelia (*Phacelia* sp.), and sage (*Salvia* sp.).	**Low.** Project Area is within the range of the species; however, common foraging plants are absent. 1 record in Study Area.
Western bumble bee *Bombus occidentalis occidentalis*	–/SC/G3/S1	High elevation sites in northern California and a few sites on the northern California coast.	Nests underground in squirrel burrows, in mouse nests, and in open west-southwest facing slopes bordered by trees. Visits a wide variety of wildflowers. Plant genera it is most commonly associated with are *Cirsium*, *Erigonum*, *Solidago*, "Aster," *Ceonothus*, *Centaurea*, and *Penstemon*.	**None.** Project Area outside current range. 3 records in Study Area.
Fish				
Green sturgeon – southern DPS pop. 1 *Acipenser medirostris*	FT/–/G2T1/S1	Sacramento, San Joaquin, Stanislaus, Klamath, and Trinity rivers.	The species spawns in large river systems with well-oxygenated water, with temperatures from 8.0 to 14°C.	**None**. No suitable habitat within the Project Area.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Longfin smelt *Spirinchus thaleichthys*	FC/ST/G5/S1	Within California, mostly in the Sacramento River–San Joaquin River Delta, but also in Humboldt Bay, Eel River estuary, and Klamath River estuary. Also found in South San Francisco Bay and sloughs in Coyote Creek, Alviso Slough, and nearby salt ponds.	Salt or brackish estuary waters with freshwater inputs for spawning.	**None**. No suitable habitat within the Project Area.
Amphibians				
California tiger salamander – central California DPS *Ambystoma californiense*	T/T/G2G3T3/S3	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Sonoma County south to Santa Barbara County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	**None**. No suitable habitat within the Project Area. 46 records in Study Area.
Foothill yellow-legged frog – north coast DPS *Rana boylii*	–/SSC/G3T4/S4	The north coast DPS extends north of San Francisco Bay through the Coast Range and Klamath Mountains to the northern limit and east through the Cascade Range.	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	**None**. No suitable habitat within the Project Area. 6 records in Study Area.
Western spadefoot *Spea hammondii*	–/SSC/G2G3/S3S4	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in Southern California.	Shallow streams with riffles; seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	**None**. No suitable habitat within the Project Area.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Reptiles				
Western pond turtle *Actinemys marmorata*	FC/SSC/G1/S1	California range includes Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada Mountains.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests. Nests are typically constructed in upland habitat within 0.25 mile of aquatic habitat.	**Low**. Gibson-Canyon Creek is the only suitable aquatic habitat; however, the banks are likely too steep for species utilization. 17 records in Study Area.
Giant garter snake *Thamnophis gigas*	T/T/G2/S2	Wetlands in the Sacramento and San Joaquin Valleys from Chico, south to the Mendota Wildlife Area in Fresno County.	Sloughs, canals, low-gradient streams, and freshwater marshes where there is a prey base of small fish and amphibians. Irrigation ditches and rice fields. Requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	**None**. Gibson-Canyon Creek is the only suitable aquatic habitat; however, the Project Area outside current known range of the species. 1 record in Study Area.
Birds				
White-tailed kite *Elanus leucurus*	–/FP/G5/S3S4	Lowland areas west of Sierra Nevada Mountains from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border.	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging.	**Present.** Observed during surveys. Suitable foraging and nesting habitat in vicinity of Project Area. 5 records in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Bald eagle *Haliaeetus leucocephalus*	P/E, FP/G5/S3	Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County.	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, or stream, or the ocean.	**Low.** No suitable nesting or foraging habitat (large lakes, reservoirs, or rivers) in or near the Project Area. 1 record in Study Area.
Northern harrier *Circus cyaneus*	–/SSC/G5/S3	Throughout lowland California; has been recorded in fall at high elevations.	Grasslands, meadows, marshes, and seasonal and agricultural wetlands providing tall cover.	**Low**. Suitable nesting and foraging habitat is present in the vicinity of the Project Area. 2 records in Study Area.
Swainson's hawk *Buteo swainsoni*	–/T/G5/S4	Lower Sacramento and San Joaquin Valleys, Klamath Basin, and Butte Valley; highest nesting densities occur near Davis and Woodland in Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields.	**Present**. Species observed during surveys; suitable foraging and nesting habitat within Project Area. 200 records in Study Area.
American peregrine falcon *Falco peregrinus anatum*	–/FP/G4T4/S3S4	Widespread in California during winter, breeds in the coast of southern and central California, inland northern coastal mountains, Klamath Mountains, Cascade Range, and Sierra Nevada.	Open country, near cliffs urban areas, and coast.	**None.** No suitable foraging or nesting habitat present. 1 records in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
California black rail *Laterallus jamaicensis coturniculus*	–/T, FP/G3T1/S2	Approximately 90% are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations occur in San Francisco Bay, the outer coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River area.	Nests and forages in saline, freshwater, or brackish emergent marshes with gently grading slopes and upland refugia with vegetative cover beyond the high-water line.	**None.** No suitable foraging or nesting habitat present.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/SE/G5T2T3/S1	Scattered locations throughout California. Breeding population along Colorado River, Sacramento and Owen Valley, along South Fork of Kern River, Santa Ana River and Amargosa River. May be present along San Luis Rey River.	Deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Willow almost always a dominant component of the vegetation. In Sacramento Valley, also utilizes adjacent orchards, especially walnut. Nests in sites with some willows, dense low-level or understory foliage, high humidity, and wooded foraging spaces.	**None.** No suitable foraging or nesting habitat present.
Golden eagle *Aquila chrysaetos*	P/FP/G5/S3	Foothills and mountains throughout California; uncommon nonbreeding visitor to lowlands such as the Central Valley	Nests in cliffs and escarpments or tall trees; forages in annual grasslands, chaparral, or oak woodlands that provide abundant medium and large-sized mammals for prey.	**Low.** Marginal foraging habitat, and no suitable nesting habitat present.
Burrowing owl *Athene cunicularia*	–/SSC/G4/S2	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	**Moderate.** Surveys conducted in 2024 did not detect burrowing owl in the study area. Marginal nesting and foraging habitat is present. 88 records in Study Area.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Yellow-breasted chat *Icteria virens*	–/SSC/G1/S1	Varied throughout California, most common in northwest. Southern Coast Range from Santa Clara County to San Diego County, sometimes in Sacramento and San Joaquin Valleys.	Associated with shrubby willow riparian habitat with an open canopy and dense sub-canopy.	**None**. No suitable habitat present. 1 record in Study Area.
Grasshopper sparrow *Ammodramus savannarum*	–/SSC/G5/S3	Central Valley and foothills, west slope of Sierra Nevada, Coast Ranges, and coastal areas from Del Norte County south to San Diego County; rare breeder in the Shasta Valley area of Siskiyou County.	Occurs in short to medium height dry grasslands with scattered shrubs in the Central Valley, Sierra foothills, and south coast; found in prairies and pastures scattered in largely forested areas along north coast; nests on ground in grass or at base of shrub.	**Low.** Marginal habitat within Project vicinity. 2 records in Study Area.
Tricolored blackbird *Agelaius tricolor*	–/T/G1G2/S2	Permanent resident in the Central Valley from Butte County to Kern County; breeds at scattered coastal locations from Marin County south to San Diego County and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony.	**None**. No suitable habitat present. 11 records in Study Area.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	–/SSC/G5T3/S3	San Francisco Bay south along coast to San Diego.	Salt marshes.	**None**. No suitable habitat present.

Common Name *Scientific Name*	Status[a] Federal/State/ GR/SR	California Distribution	Habitats	Likelihood to Occur in the Project Area
Mammals				
Pallid bat *Antrozous pallidus*	–/SSC/G4/S3 WBWG High	Throughout California, rom Shasta to Kern County and the northwest coast, primarily at lower and mid-elevations.	Occurs in a variety of habitats but most common in dry, rocky areas; day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, tree hollows, and various human structures (e.g., bridges, barns, porches).	**None**. No suitable habitat present.
Townsend's big-eared bat *Corynorhinus townsendii*	–/SSC/G4/S3 WBWG High	Widespread throughout California, from low desert to mid-elevation montane habitats.	Roosts in caves, tunnels, mines, buildings, and other cave-like spaces. Will night roost in more open settings, including under bridges.	**None**. No suitable habitat present. 2 records in Study Area.
Western red bat *Lasiurus blossevillii*	–/SSC/G4/S3 WBWG High	Found from Shasta County south to Mexico and west of the Sierra/Cascade crest and deserts; winter range includes western lowlands and coastal regions south of San Francisco Bay.	Found primarily in riparian and wooded habitats; occurs at least seasonally in urban areas; day roosts within foliage of trees; found in fruit orchards and sycamore riparian habitats in the Central Valley.	**Low.** Orchards surrounding the Project Area may provide suitable roosting habitat. 1 record in Study Area.
Suisun shrew *Sorex ornatus sinuosus*	–/–/ SSC/G5T1T2Q/S1S2	Tidal and brackish marsh communities along the north shore of San Pablo and Suisun Bays.	Salt and brackish marshes with low, dense vegetation.	**None**. No suitable habitat present.
American badger *Taxidea taxus*	–/–/SSC/G5/S3	Throughout most of California except northern North Coast area.	Shrub, forest, and herbaceous cover types with friable soils for digging burrows.	**None**. No suitable habitat present. 2 records in Study Area.

DPS = Distinct Population Segment
BCC = Bird of Conservation Concern
Status explanations:

Federal

E = listed as endangered under ESA
T = listed as threatened under ESA
P = protected under the Bald and Golden Eagle Protection Act
– = no listing

State

E = listed as endangered under CESA
T = listed as threatened under CESA
C = candidate status under CESA
FP = fully protected under the California Fish and Game Code
SSC = Species of Special Concern in California
WL = watch list
– = no listing

Global Rank (GR) (NatureServe)

GX = presumed extinct: virtually no likelihood of rediscovery.
GH = possibly extinct: known only from historical occurrences but still some hope of rediscovery.
G1 = critically imperiled: very high risk of extinction due to extreme rarity (often 5 or fewer populations) steep declines, or other factors.
G2 = imperiled: high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = vulnerable: moderate risk of extinction or elimination due to a restricted range, relatively few populations (often 80 or fewer), or other factors.
G4 = apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = secure: common; widespread and abundant.
GNR = unranked: global rank not yet assessed.
GU = unrankable: currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
G#G# = range rank: numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty about the exact status of a taxon or community.
G#T# = infraspecific taxon: status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' Global Rank.
? = Qualifier: inexact numeric rank — represents a rank qualifier, denoting an inexact or uncertain numeric rank.
Q = Qualifier: questionable taxonomy — the distinctiveness at the current level is questionable.
C = Qualifier: captive or cultivated only — presumed or possibly extinct or eliminated in the wild but extant in cultivation or in captivity

State Rank (SR)(CNDDB)

SX = presumed extirpated: species believed to be extirpated from the state.
SH = possibly extirpated (Historical): species occurred historically in the state, and there is some possibility that it may be rediscovered.
S1 = critically imperiled: extreme rarity (often 5 or fewer occurrences) or other factor(s) making it especially vulnerable to extirpation.
S2 = imperiled: rarity (often 20 or fewer), or other factors making it very vulnerable to extirpation from the nation or state.
S3 = vulnerable: relatively few populations (often 80 or fewer), or other factors making it vulnerable to extirpation.
S4 = apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 = secure: common, widespread, and abundant in the state.
SNR = unranked: state conservation status not yet assessed.
SU = unrankable: unrankable due to a lack of information or due to substantially conflicting information about status or trends.
S#S# = range rank: numeric range rank (e.g., S2S3) used to indicate any range of uncertainty about the status of the species or community.
? = Qualifier: inexact or uncertain: — represents a rank qualifier, denoting an inexact or uncertain numeric rank.

Other:

Western Bat Working Group (WBWG)

High Priority: Species are imperiled or at high risk of imperilment.

3.4.1 White-Tailed Kite

White-tailed kite (CDFW Fully Protected) was observed foraging and perching within the 0.5 mile survey buffer during the 2023 raptor nest survey that focused on Swainson's hawk nest occupancy. Remnant grasslands and fallow agricultural fields provide suitable foraging habitat while patches of non-native forest along the I-80 corridor provide suitable nesting habitat. There are five historical CNDDB records for white-tailed kite nests within the 10-mile Study Area. (CDFW 2024b). The species is considered a relatively common yearlong resident in the California inland valleys and coastal areas and often associated with open grasslands and farmlands that provide foraging habitat. Based on the presence of suitable nesting and forging habitat, and known occupancy in the vicinity of the Project Area, white-tailed kite are considered to be present within the Project Area.

3.4.2 Swainson's Hawk

Swainson's hawk (California Threatened) was observed nesting in 2023 within 0.5 miles of the Project Area. Two pairs of Swainson's hawk were observed during the survey area with active nests (Figure 6). One nest was located on the west side of I-80 southbound onramp from N. Meridian Road west of the PG&E Vaca-Dixon Substation (38.402996°, -121.915833°). The second nest was on the east side of N. Meridian Road northwest of the substation (38.408950°, -121.915465°). Additionally, nesting behavior was observed by a third Swainson's hawk pair located in a eucalyptus tree on the west side of Byrnes Road located 0.2 mile south of the survey buffer 38.379727°, -121.906086° (Figure 6). The I-80 southbound onramp nest was occupied again during 2024 burrowing owl surveys. Historical records of nesting Swainson's hawk compose the majority (63%) of all CNDDB records of bird species located within the 10-mile Study Area (CDFW 2024b). Large, scattered trees, utility towers, adjacent farmland, and annual grasslands found within the Project vicinity provide suitable nesting and foraging habitat for Swainson's hawk. Based on the presence of suitable nesting and forging habitat, and known occupancy in the vicinity of the Project Area, Swainson's hawk are considered present within the Project Area.

3.4.3 Burrowing Owl

Burrowing owl (CDFW Species of Special Concern) was observed incidentally in 2023 approximately 0.5 miles northeast of the Project Area (38.402344°, -121.900840°) during Swainson's hawk nest surveys. Suitable nesting and foraging habitat is present in the fallow agricultural fields and grasslands within the Project Area and focal surveys for burrowing owl were completed in 2024 to further characterize the potential for occurrence. The breeding season and non-breeding season surveys in 2024 and 2025 did not document the presence of burrowing owls within the study area. Historical records of nesting burrowing owl compose the second largest (28%) proportion of all CNDDB records of special-status birds located within the 10-mile Study Area (CDFW 2024b). One historical burrowing owl occurrence (#713) is located approximately 1.33 miles from the Project Area (CDFW 2024b). Unique features such as mounded banks of agricultural ditches, California ground squirrel (*Otospermophilus beecheyi*) burrows, and piles of discarded concrete pipes within the Project Area may provide suitable nesting, wintering, and foraging habitat for burrowing owl. Although no burrowing owls were observed during surveys in 2024, based on the presence of suitable nesting and forging habitat, and known occupancy in the region surrounding the Project

Area, burrowing owl are considered to have a moderate potential to occur in the Project Area in the future.

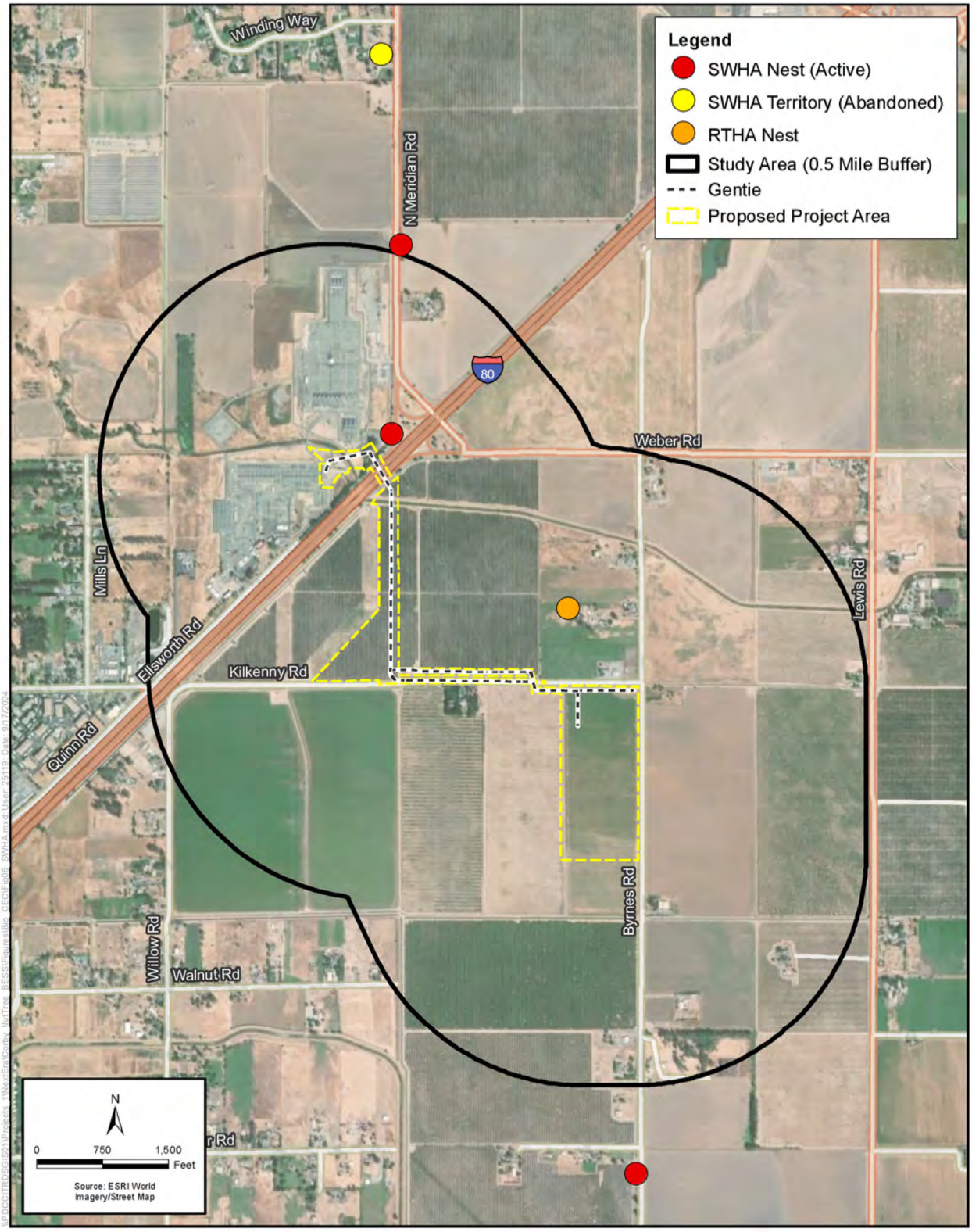


Figure 6. Swainson's Hawk 2023 Nest Survey Results

3.5 Non-Special-Status Migratory Birds and Raptors

Non-special-status migratory birds have the potential to nest and forage in the Project Area. All native migratory birds (i.e., excludes non-native, human-introduced species such as house sparrow [*Passer domesticus*], European starling [Sturnus vulgaris]) qualify for protection under the MBTA (Section 1.3.1.2). This protection extends to the majority of bird species in California. Although limited, trees and shrubs in the Project Area including orchards and non-native forest provide suitable habitat for tree- and shrub-nesting birds such as yellow-billed magpie (*Pica nuttalli*), loggerhead shrike (*Lanius ludovicianus*). Gravel roads in the Project Area may be used for nesting by killdeer (*Charadrius vociferus*). Electrical towers in the Project Area also provide suitable nesting habitat for raptors, and some other birds such as common raven (*Corvus corax*). The breeding season for migratory birds varies by species but generally extends from February through August.

Chapter 4
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Appendix A

California Department of Fish and Wildlife, California Native Plant Society, and U. S. Fish and Wildlife Species Lists

Appendix B
Species Observed

Appendix B. Species observations during biological surveys conducted 2023–2024 at the Corby Battery Energy Storage System Project, Solano County, California

		Survey Type[a]			
Common Name	**Scientific Name**	**2023 Site Recon**	**2023 SWHA Survey**	**2024 BUOW Survey**	**2024 Waters Survey**
Plants					
Bur clover	*Medicago polymorpha*				X
Cockle burr	*Xanthium strumarium*	X			
Common sow thistle	*Sonchis oleraceus*	X			
Common toad rush	*Juncus bufonius*				X
Curley dock	*Rumex crispus*				X
Field bind weed	*Convolvulus arvensis*	X			
Filaree species	*Erodium spp.*				X
Hyssop loosestrife	*Lythrum hyssopifolia*				X
Italian rye grass	*Festuca perennis*				X
Oat species	*Avena spp.*	X			X
Oleander	*Nerium oleander*				X
Olive	*Olea europea*				X
Prairie flameleaf sumac	*Rhus lanceolata*	X			
Prickly lettuce	*Lactuca serriola*				X
Prostrate knotweed	*Polygonum aviculare*				X
Purple thistle	*Centaurea calcitrapa*	X			
red gum	*Eucalyptus camaldulensis*				X
Ripgut brome	*Bromus diandrus*				X
Seaside barley	*Hordeum marinum*				X
Slender oat	*Avena barbata*				X
Tall annual willowherb	*Epilobium brachycarpum*				X
Wild mustard	*Sinapis arvensis*	X			
Wild radish	*Raphanus raphanistrum*	X			
Yellow star thistle	*Centaurea solstitialis*				X
Birds					
American crow	*Corvus brachyrhynchos*	X	X	X	
American kestrel	*Falco sparverius*		X		
American robin	*Turdus migratorius*			X	
Anna's hummingbird	*Calypte anna*		X		
Barn swallow	*Hirundo rustica*		X		

Common Name	Scientific Name	Survey Type[a]			
		2023 Site Recon	2023 SWHA Survey	2024 BUOW Survey	2024 Waters Survey
Black phoebe	*Sayornis nigricans*	X			
Brewer's blackbird	*Euphagus cyanocephalus*	X	X		
Burrowing owl	*Athene cunicularia*		X		
Bushtit	*Psaltriparus minimus*		X		
Canada goose	*Branta canadensis*		X		
California quail	*Callipepla californica*		X	X	
California scrub-jay	*Aphelocoma californica*		X	X	
Common raven	*Corvus corax*		X		
Cooper's hawk	*Accipiter cooperii*		X		
Cliff swallow	*Petrochelidon pyrrhonota*			X	
Double-crested cormorant	*Phalacrocorax auritus*		X		
Eurasian collared-dove	*Streptopelia decaocto*		X		
European starling	*Sturnus vulgaris*		X		
Golden-crowned sparrow	*Zonotrichia atricapilla*		X		
Great blue heron	*Ardea herodias*			X	
Great egret	*Ardea alba*		X	X	
House finch	*Haemorhous mexicanus*	X	X	X	
House sparrow	*Passer domesticus*		X		
Hutton's vireo	*Vireo huttoni*		X		
Mallard	*Anas platyrhynchos*		X		
Killdeer	*Charadrius vociferus*			X	
Loggerhead shrike	*Lanius ludovicianus*		X		
Mourning dove	*Zenaida macroura*	X	X	X	
Northern mockingbird	*Mimus polyglottos*	X	X	X	
Nuttall's woodpecker	*Picoides nuttallii*		X		
Peacock	*Pavo cristatus*	X			
Red-tailed hawk	*Buteo jamaicensis*	X	X	X	
Red-shouldered hawk	*Buteo lineatus*		X		
Red-winged blackbird	*Agelaius phoeniceus*		X	X	
Rock dove	*Columba livia*		X		
Say's phoebe	*Sayornis saya*		X		
Summer tanager	*Piranga rubra*		X		
Swainson's hawk	*Buteo swansonii*	X	X	X	
Turkey vulture	*Cathartes aura*		X	X	
Western kingbird	*Tyrannus verticalis*		X		
Western meadowlark	*Sturnella neglecta*		X		
White-crowned sparrow	*Zonotrichia leucophrys*		X		

[a] Survey Type

Common Name	Scientific Name	Survey Type[a]			
		2023 Site Recon	2023 SWHA Survey	2024 BUOW Survey	2024 Waters Survey
White-winged dove	*Zenaida asiatica*		X		
White-tailed kite	*Elanus leucurus*		X		
Wild turkey	*Meleagris gallopavo*		X	X	
Yellow-billed magpie	*Pica nuttalli*		X		
Yellow-rumped warbler	*Setophaga coronata*		X		
Mammals					
Black-tailed jackrabbit	*Lepus californicus*		X	X	
California ground squirrel	*Otospermophilus beecheyi*	X		X	
Tree squirrel	*Sciurus sp.*			X	
Reptiles					
Pacific gophersnake	*Pituophis catenifer catenifer*			X	
Western fence lizard	*Sceloporus occidentalis*	X	X	X	

2023 Site Recon = Reconnaissance-level field visit (June 1); 2023 SWHA Survey = Swainson's hawk nesting survey (March 16–June 29); 2024 BUOW Survey = Burrowing owl survey (May 23–*current*); 2024 Waters Survey = Aquatic Delineation Survey (May 28)

Appendix C
Representative Site Photos

Photo 1. Battery storage area southwest corner – Facing northeast.

Photo 2. Battery storage area northwest corner – Facing east.

Photo 3. Orchard east of battery storage area – Facing southwest.

Photo 4. Orchard and agricultural ditch (gen-tie route) – Facing west.

Photo 5. Agricultural ditch along north side of Project Area – Facing east.

Photo 6. Gibson-Canyon Creek, orchards on both sides– Facing east.

Photo 7. Gibson-Canyon Creek – Facing west.

Photo 8. Potential BUOW habitat elements – burrows & discarded pipes. North of battery storage area, within gen-tie route. Facing northeast.

Photo 9. Grassland north of Weber Road – Facing northeast.

Photo 10. Grassland north of Weber Road – Facing northwest.

Appendix D

Aquatic Resources Delineation Report