Appendix C5

Biological Resources Assessment – Tuolumne Facility

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Subject: Biological Resources Assessment for the Forest Resiliency Program – Tuolumne Facility in Tuolumne County, California

Dear Mr. Wylene:

Dudek has prepared this Biological Resources Assessment (BRA) for the Forest Resiliency Program – Tuolumne Facility (project site) located in Tuolumne County, California (Figure 1, Project Location). The purpose of the BRA is to identify and characterize existing onsite biological resources, with particular focus on the potential of the project site to support special-status plant and wildlife species and other sensitive resources, such as wetlands and other aquatic resources potentially under the regulatory jurisdiction of state and/or federal resource agencies. This assessment also identifies potential constraints to project implementation posed by the presence or potential presence of sensitive resources, as well as recommendations to minimize and/or avoid impacts to these resources.

1 Location

The ±61-acre project site is located approximately 15.4 kilometers southwest of the community of Jamestown in Tuolumne County, California. The project site consists of the abandoned Sierra Pacific Industries (SPI) Keystone Mill at 12001 La Grange Road [Assessor's Parcel Number (APN) 063-190-56] and the junction of State Route (SR) 108 and La Grange Road (Figure 1, Project Location).

The site is situated in Township 1 South, Range 13 East, and Sections 14 and 23 of the U.S. Geological Survey (USGS) Keystone, California 7.5-minute quadrangle. The approximate center of the project site corresponds to 37°50'22.44" north latitude and 120°30'17.15" west longitude. The project site is surrounded by widely scattered rural development and open space generally composed of scattered oak woodland and annual grassland.

2 Methods

2.1 Preliminary Site Evaluation

Prior to conducting the survey, Dudek performed a review of pertinent online and literature sources. This consisted of a review of the following online databases and reports: the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) Trust Resource Report, California Department of Fish and Wildlife

(CDFW) California Natural Diversity Database (CNDDB), and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants (USFWS 2023; CDFW 2023a; CNPS 2023). The IPaC report was based on a query for the project site. The CNDDB and CNPS databases were queried for the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site (*Sonora, Chinese Camp, New Melones Dam, Cooperstown, Knights Ferry, Keystone, Copperopolis, La Grange,* and *Paulsell*). Following a review of these resources, Dudek biologists determined the potential for special-status plant and wildlife species to occur onsite. Determinations were based on a review of habitat types, soils, and elevation preferences, as well as the known geographic range and nearest occurrence records of each species (Attachment A, Special-Status Plant Species Potential to Occur, and Attachment B, Special-Status Wildlife Species Potential to Occur). No protocol-level surveys for special-status species were conducted.

For this report, special-status plant and wildlife species are defined as those that are (1) listed, proposed for listing, or candidates for listing as Threatened or Endangered under the federal Endangered Species Act; (2) listed or candidates for listing as Threatened or Endangered under the California Endangered Species Act; (3) a state fully-protected species; (4) a CDFW Species of Special Concern; or (5) a species listed on the CNPS Inventory of Rare and Endangered Plants with a California Rare Plant Rank (CRPR) of 1 or 2.

2.2 Field Surveys

A summary of all surveys conducted to date is included in Table 1.

Table 1. Schedule of Biological Field Surveys

Date	Personnel	Survey Type/Focus
December 10, 2020	Laura Burris, Paul Keating	Biological Survey Aquatic Resources Delineation
May 17, 2021	Laura Burris, Allie Sennett, Paul Keating, Anna Godinho	Rare Plant Survey Bat Roost Assessment
March 31, 2023	Allie Sennett, Alex Freeman	Aquatic Resources Delineation

2.2.1 Biological Field Survey

Dudek biologists Laura Burris and Paul Keating performed a biological field survey of the project site on December 10, 2020. The survey was conducted on foot to visually cover the entire project site. Field notes, an aerial photograph with an overlay of the property boundary, and a Trimble® R1 Global Navigation Satellite System Receiver with submeter accuracy were used to map vegetation communities and record any sensitive biological resources within the project site. Representative site photographs of the project site are included in Attachment C.

All plant species encountered were identified to the lowest taxonomic level needed to determine rarity. Those species that could not be immediately identified were brought into the laboratory for further investigation. Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2023), and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service PLANTS Database (USDA 2023).

Wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly into a field notebook. The site was also scanned with binoculars to aid in the identification of wildlife. A list of plant and wildlife species identified during the survey is included in Attachment D.

2.2.2 Aquatic Resources Delineation

Concurrent with the fieldwork on December 10, 2020, Laura Burris and Paul Keating performed a preliminary field delineation to identify and map the extent of aquatic resources within or adjacent to the project site that are potentially subject to regulation under federal Clean Water Act (CWA) Sections 401 and 404, California Fish and Game Code Section 1600, or the provisions of the Porter-Cologne Water Quality Act. A follow-up field delineation was conducted on March 31, 2023, by Allie Sennett and Alex Freeman. Refer to the separate Aquatic Resources Delineation Report for additional information regarding aquatic resources present within the project site.

2.2.3 Rare Plant Survey

Dudek biologists Laura Burris, Allie Sennett, Paul Keating, and Anna Godinho performed a rare plant survey of the project site on May 17, 2021. The survey followed recommended methodology described in the CDFW *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018a). The survey was floristic in nature and consisted of walking meandering transects within the project site. The timing of the survey was conducted during the bloom period when target plants (with a potential to occur on the project site) would be evident and identifiable. All botanical resources were identified to a level necessary to determine rarity.

Potential reference populations for target species were identified through a review of past records documented in the CNDDB (CDFW 2023a), Calflora online database (Calflora 2020), and the California Consortium of Herbaria (CCH) online database (CCH 2020). Results of the rare plant survey are incorporated into this assessment.

2.2.4 Bat Roost Assessment

Dudek biologists Laura Burris, Allie Sennett, Paul Keating, and Anna Godinho performed a bat roost assessment of the project site on May 17, 2021. The roost assessment included a visual inspection of potential roosting features (bats need not be present) and evidence of bat occupation (i.e., guano, staining, insect remains, etc.) on the project site and accessible areas within 50 feet. Mature cottonwood trees (or other trees with exfoliating bark, crevices, and/or sufficient foliage) in the riparian woodland and abandoned structures on project site provide good quality roosting habitat and were surveyed with the aid of binoculars. Results of the bat roost assessment are incorporated into this assessment.

2.2.5 California Red-legged Frog Site Assessment

Dudek biologist Andy Hatch prepared a California red-legged frog (CRLF) site assessment of the project site based on the field data collected on December 10, 2020; May 17, 2021; and March 31, 2023. Aquatic habitats evaluated as part of the assessment included a pond, riparian woodland, one freshwater emergent wetland, one seasonal wetland, one detention basin (DB-02), and one intermittent drainage in the northern portion of the project site.

Habitat evaluations were conducted by walking the entire project site with particular focus on potential aquatic habitats, including walking around the perimeter of or along the banks of all potential aquatic habitats and through adjacent upland areas. At each aquatic site, general and specific habitat conditions (e.g., type and location, physical parameters, upland habitat information) were recorded for both aquatic and adjacent terrestrial environments. Additionally, photographs were taken to document existing habitat conditions.

The habitat assessment was based on habitat requirements and survey protocols as described in the *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005). Aquatic habitats and potential aquatic habitats, and adjacent uplands, were evaluated by assessing their potential to support breeding, foraging activities, provide refuge and/or aestivation habitat, and as dispersal corridors for adult and juvenile frogs. In addition, habitats were also evaluated based on personal knowledge and experience with CRLF in the project region. Refer to the separate CRLF Site Assessment report for additional information.

Dudek biologist Andy Hatch submitted the CRLF Site Assessment report to the USFWS on January 31, 2024.

3 Results

3.1 Site Description

The project site is located in the western foothills of the Sierra Nevada Mountain Range. Elevations on the project site range from approximately 1,070 feet above mean sea level (AMSL) in the northwest corner of the site to 1,140 feet AMSL in the eastern portion of the site. The project site is surrounded by widely scattered rural development and open space generally composed of scattered oak woodland and annual grassland. The project site is located in a semi-arid climate where annual temperatures range from 33.4°F to 94.5°F, and the average annual precipitation is 32.14 inches. On average, the months with the highest rainfall are January and February, and July has the least precipitation (WRCC 2020).

3.2 Soils

There are four soil mapping units mapped on the project site: Copperopolis-Whiterock complex, 2–8% slopes, rocky; Bonanza-Loafercreek complex, 3–15% slopes; Aquic Haploxeralfs-Loafercreek-Dunstone complex, 1–12% slopes; and water (USDA 2020a) (Figure 3, Project Soils). Both the primary and secondary soil series are described below. According to Calflora (2020), no serpentine soils or acidic soils are mapped on the project site; the nearest acidic and serpentine soils are mapped in the foothills northeast of the project site.

3.2.1 Primary Soil Series

Copperopolis-Whiterock Complex, 2–8% Slopes: This soil unit is dominated by the Copperopolis series which consists of shallow, well to somewhat excessively well drained soils formed in colluvium over residuum from metasedimentary rocks. The Copperopolis soils are found on hills. Approximately 5% of the soil map unit is

classified as hydric[1] (USDA 2020b). This map unit occurs along La Grange Road in the southern portion of the parcel, occupying 9.54 acres. Whiterock complex is a secondary soil series within this unit.

Bonanza-Loafercreek Complex, 3–15% Slopes: This soil unit is dominated by the Bonanza series which consists of shallow, well drained soils formed in residuum weathered from metavolcanic rocks. The Bonanza soils are found on summits, shoulders, and backslopes of hills. None of the soil map unit is classified as hydric (USDA 2020c). This map unit occurs throughout the majority of the central portion of the parcel, occupying 40.52 acres. Loafercreek complex is a secondary soil series within this unit.

Aquic Haploxeralfs-Loafercreek-Dunstone Complex, 1–12% Slopes: This soil unit is dominated by Aquic Haploxeralfs which consists of moderately well drained soils. Aquic Haploxeralfs soils are found in depressions and drainageways. This soil map unit occurs to the east and west of the pond in the northern portion of the parcel, occupying 4.86 acres. None of the soil map unit is classified as hydric (USDA 2020c). Loafercreek and Dunstone complex are secondary soil series within this unit.

3.2.2 Secondary Soil Series

Loafercreek Complex: This secondary series is characterized by moderately deep, well-drained soil that forms in a colluvium and residuum from metavolcanics rocks, mainly greenschist. Loafercreek soils are found on foothills.

Whiterock Complex: This secondary soil series is characterized by very shallow and shallow, somewhat excessively drained soils formed in residuum weathered from metasedimentary rocks. Whiterock soils are typically found on hills with slopes between 3 to 60 percent.

Dunstone Complex: This secondary soil series is characterized by shallow well drained soils that formed in residuum and colluvium from metavolvanic rocks, mainly greenschist and metasedimentary rocks. Dunstone soils are found on ridge tops and on slopes on metamorphic Sierra Nevada Foothills.

3.3 Hydrology

The project site occurs within the Upper Stanislaus River watershed, which drains approximately 250 square miles of land (Hydrological Unit Code 1804001006) (CDFW 2023). According to the USFWS National Wetlands Inventory, there are three aquatic resources mapped on the project site: riverine (R45BA), freshwater pond (PUBHh), and freshwater forested/shrub wetland (PSSA) (USFWS 2020) (Figure 4, Hydrologic Setting). The National Wetlands Inventory dataset is based on coarse aerial mapping and is unlikely to include features that are not visible in aerial photography, such as small wetlands or wetlands hidden by tree canopy.

Surface run-off on the project site is generally directed to a drainage and freshwater pond in the northern portion of the project site and to a drainage in the southeast portion of the site. In addition, there are four detention basins constructed throughout the project site to collect and store run-off.

[1] Hydric soils are commonly associated with wetlands and exhibit characteristic resulting from repeated periods of saturation or inundation for more than a few days.

3.4 Vegetation Communities and Land Cover Types

Land cover on the project site consists of terrestrial non-vegetative land covers and natural vegetation communities. The vegetation communities and land covers have been adapted from the Manual of California Vegetation, Online Edition (CNPS 2020). Six vegetation communities and two land cover types were documented on the project site (Figure 5, Vegetation Communities and Land Cover Types). Table 2 provides a breakdown of the cover types present, and a detailed discussion of cover types on the project site is included below.

Table 2. Vegetation Communities and Land Cover Types Mapped on the Project Site

Vegetation Community/ Land Cover Type	Vegetation Alliance and CDFW Alliance Code	Rarity Rank	Acreage
Vegetation Communities			
Annual Grassland	Annual brome grasslands (*Avena* spp. - *Bromus* spp.) Herbaceous Semi-Natural Alliance; 42.027.00	NA, NA	42.70
Blue Oak Woodland	Blue oak (*Quercus douglasii*) Forest and Woodland Alliance; 71.020.00	S4, G4	0.86
Riparian Woodland	Fremont cottonwood (*Populus fremontii – Salix laevigata*, lasiolepis, *lucida* ssp. *lasiandra*) Forest and Woodland Alliance; 61.130.00	S3, G4	0.25
Spikerush Marsh	Common spikerush - beaked spikerush marshes (*Eleocharis* (*palustris, rostellata*)) Alkaline-Saline Alliance; 45.260.03	S3, G3	0.69
Riparian Scrub	Himalayan blackberry - rattlebox - edible fig riparian scrub (*Rubus armeniacus - Sesbania punicea - Ficus carica*) Semi-Natural Alliance; 63.906.00	NA, NA	0.02
Cattail Marsh	Cattail marshes (Typha (*angustifolia, domingensis, latifolia*)) Alliance; 52.050.04	S5, G5	0.08
Other Land Over Types			
Disturbed	NA	NA, NA	12.44
Open Water	NA	NA, NA	0.13
		Total:	**57.19**

Notes: NA: not applicable. State (S) ranks of 1-3 are considered highly imperiled by CDFW (2020a). Global (G) ranks are as follows: GX – eliminated; GH – presumed eliminated; G1 – critically imperiled; G2 – imperiled; G3 – vulnerable; G4 – apparently secure; G5 – secure.

3.4.1 Annual Grassland

Annual grassland is the dominant vegetation community present on the project site. This community is generally present in undeveloped areas throughout the site. Plant species present in this community include a mix of annual grasses and forbs, such as medusa head (*Elymus caput-medusae*), slender oat (*Avena barbata*), mouse barley (*Hordeum murinum*), rose clover (*Trifolium hirtum*), harvest brodiaea (*Brodiaea elegans*), and black mustard (*Brassica nigra*). Shrub and tree layers are sparse to absent in this vegetation community, and where present is typically limited to young blue oaks (*Quercus douglasii*).

3.4.2 Blue Oak Woodland

Blue oak woodland is located in the northwestern portion of the project site. This vegetation community has an open to intermittent tree canopy and includes shrubs and small trees. Blue oak is the dominant overstory species, with a lesser abundance of foothill pine (*Pinus sabiniana*) and Brewer spruce (*Picea breweriana*). The herbaceous layer includes a similar assemblage of plant species as in the grassland community (discussed above).

3.4.3 Spikerush Marsh

Spikerush marsh is present in the northeast corner of the project site. This vegetation community lacks a tree and shrub layer and is located near the eastern edge of a perennial pond (discussed in Section 3.5 below). Pale spike rush (*Eleocharis macrostachya*) is the dominant plant species, with a lesser abundance of perennial rye grass (*Festuca perennis*), annual rabbitsfoot grass (*Polypogon monspeliensis*), California horkelia (*Horkelia californica*), and rushes (*Juncus* spp.). This vegetation community is a component of a freshwater emergent wetland (FEW-02) (discussed in Section 3.5 below). Two populations of Stanislaus monkeyflower (*Erythranthe marmorata*) were mapped in this vegetation community (within the project site) during the rare plant survey in May 2021 (refer to Section 3.7 for details).

3.4.4 Riparian Woodland

Riparian woodland is present along the western and southern banks of a perennial pond in the northeastern portion of the project site. This vegetation community has an intermittent to continuous tree canopy dominated by Fremont cottonwood (*Populus fremontii*), with a lesser abundance of willows (*Salix exigua, S. gooddingii,* and *S. lasiolepis*). The understory is variable, but generally includes a similar assemblage of species in the spikerush marsh and riparian scrub communities where the community abuts the pond or upland grasses and forbs where the understory is further from the pond.

3.4.5 Riparian Scrub

Riparian scrub is present in the northeast corner of the project site. This vegetation community is located near the eastern edge of a perennial pond (discussed in Section 3.5 below). The tree and shrub layers are intermittent to continuous and include Himalayan blackberry (*Rubus armeniacus*), Fremont cottonwood, interior live oak (*Quercus wislizeni*), and willow (*S. exigua, S. gooddingii, S. lasiolepis*). The herbaceous layer includes a similar assemblage of plant species as in the spikerush marsh and cattail marsh communities (discussed above and below). This vegetation community is a component of a freshwater emergent wetland (FEW-02) (discussed in Section 3.5 below).

3.4.6 Cattail Marsh

Cattail marsh is present in the northeast corner of the project site. This vegetation community lacks a tree and shrub layer and is located near the eastern edge of a perennial pond (discussed in Section 3.5 below). Broadleaf cattail (*Typha latifolia*) is the dominant plant species present in this densely vegetated community. Other plant species found within this vegetation community include pale spikerush, rush (*Juncus* spp.), and fiddle dock (*Rumex pulcher*). This community is a component of a freshwater emergent wetland (FEW-02) (discussed in

Section 3.5 below). One population of Stanislaus monkeyflower was mapped in this vegetation community (adjacent to the project site) during the rare plant survey in May 2021 (refer to Section 3.7 for details).

3.4.7 Disturbed

This land cover type includes areas that have been heavily disturbed or completely altered by human activities and contain little to no vegetation. Such areas on the project site include buildings, stockpiling and staging areas, paved and gravel roadways, gravel lots, and other constructed environments associated with the abandoned mill.

3.4.8 Open Water

This cover type consists of one perennial pond and one detention basin in the northern portion of the project site.

3.5 Potential Jurisdictional Aquatic Resources

Aquatic Resources

Eight types of aquatic resources potentially subject to USACE, RWQCB, and/or CDFW jurisdiction were mapped in the study area (Table 3). In addition, riparian woodland surrounding the perennial pond was mapped as a CDFW-only aquatic resource in the study area. Refer to the separate Aquatic Resources Delineation Report for additional information regarding aquatic resources present within the study area.

Table 3. Aquatic Resources in the Review Area

Aquatic Resource	Location (Latitude, Longitude)	Acres[1]	Linear Feet
Lake/Streambed			
Channel – Natural, Ephemeral 1	37.835800, -120.503284	0.030	271
Channel – Natural, Ephemeral 2	37.840040, -120.505347	0.023	97
Channel – Natural, Ephemeral 3	37.839729, -120.505322	0.018	176
Channel – Natural, Intermittent 1	37.842638, -120.506279	0.369	1056
Channel – Natural, Intermittent 2	37.837415, -120.503331	0.031	143
Ditch – Drainage 1	37.836630, -120.504530	0.010	124
Ditch – Drainage 2	37.840565, -120.504572	0.052	220
Ditch – Drainage 3	37.843176, -120.507892	0.041	40
Pond – Perennial	37.842626, -120.504203	2.191	–
Detention Basin 1	37.837110, -120.504467	1.810	–
Detention Basin 2	37.841384, -120.503195	2.204	–
Detention Basin 3	37.840018, -120.506031	0.706	–
Detention Basin 4	37.840510, -120.506456	0.127	–
	Subtotal	*7.614*	*2221*
Riparian			
Riparian Woodland	37.842418, -120.504671	0.999	–
Freshwater Emergent Wetland 1	37.837257, -120.503873	0.246	–

Table 3. Aquatic Resources in the Review Area

Aquatic Resource	Location (Latitude, Longitude)	Acres[1]	Linear Feet
Freshwater Emergent Wetland 2	37.842424, -120.503001	1.363	—
Seasonal Wetland 1	37.842509, -120.505623	0.082	—
Seasonal Wetland 2	37.836311, -120.503818	0.019	—
Seasonal Wetland 3	37.839892, -120.504652	0.031	—
Seasonal Wetland 4	37.839488, -120.505521	0.009	—
Seasonal Wetland 5	37.839476, -120.505337	0.012	—
Vernal Pool	37.835775, -120.502800	0.093	—
	Subtotal	*2.856*	—
	Total[2]	**10.470**	**2221**

Note:
[1] Acreage of the non-wetland waters extend to ordinary high-water mark or top of bank, whichever is greater.

3.6 Plant and Wildlife Species Observed

A total of 124 species of native or naturalized plants, 69 native (56%) and 55 non-native (44%), were recorded on the site. Dudek biologists directly observed, or documented via scat, sign, or call, 24 wildlife species on the project site during the field surveys. Observed wildlife primarily included common bird species such as black phoebe (*Sayornis nigricans*), common raven (*Corvus corax*), and mourning dove (*Zenaida macroura*). Other wildlife species directly observed or detected via scat or other sign included coyote (*Canis latrans)* and common gartersnake *(Thamnophis sirtalis).* A list of the plant and wildlife species identified on the project site during the field survey is included in Attachment D.

3.7 Special-Status Plant Species

In general, the project site is highly disturbed or developed and lacks unique habitat features normally required by special-status plants, such as exposed serpentinite or other rare soil types, rocky openings within chaparral or woodland habitat. Results of USFWS, CNDDB, and CNPS database searches revealed 35 special-status plant species that are known to occur in the project site region (see Attachment A). Of these, 28 special-status plant species were removed from further consideration due to lack of suitable habitat within or adjacent to the project site, the site is outside of the species' known geographic or elevation range, and/or the species was not identified during the field surveys. The remaining seven species, Beaked clarkia (*Clarkia rostrate),* Tuolumne button-celery (*Eryngium pinnatisectum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), Stanislaus monkeyflower, forked hare-leaf (*Lagophylla dichotoma),* veiny monardella (*Monardella venosa),* and Patterson's navarretia (*Navarretia paradoxiclara*), are present or have some potential to occur on the project site due to the presence of suitable habitat, because the site is within the known elevation and geographic range for each of these species, or because the species was identified during the rare plant survey. Each of these plant species are identified in Table 4 and discussed below.

Table 4. Special-Status Plants with a Potential to Occur on the Project Site

Scientific Name	Common Name	Status (Fed/ State/CRPR)	Habitat Present	Bloom Period	Potential to Occur
Clarkia rostrata	beaked clarkia	--/--/1B.3	woodland; grassland	Apr–May	Low
Eryngium pinnatisectum	Tuolumne button-celery	--/--/1B.2	vernal pool	May–Aug	Moderate
Eryngium spinosepalum	spiny-sepaled button-celery	--/--/1B.2	vernal pool	Apr–June	Moderate
Erythranthe marmorata	Stanislaus monkeyflower	--/--/1B.1	marsh	Mar–May	**Present**
Lagophylla dichotoma	forked hare-leaf	--/--/1B.1	woodland; grassland	Apr–May	Low
Monardella venosa	veiny monardella	--/--/1B.1	woodland; grassland	May–July	Low
Navarretia paradoxiclara	Patterson's navarretia	--/--/1B.3	vernal pool	May–July	High

Note: --: no status.

3.7.1 Beaked Clarkia

Beaked clarkia is a CRPR 1B.3 species. Beaked clarkia is an annual herb found in cismontane woodland, valley and foothill grassland from approximately 197 to 1,640 feet above mean sea level. Beaked clarkia blooms from April through May (CNPS 2023). The nearest documented occurrence of this species is for plants observed growing in undisturbed woodland in the vicinity of Shotgun Creek in March 1994, approximately 5 miles northwest of the project site (CDFW 2023a). The project site provides limited undisturbed grassland and woodland habitat for this species. As such, beaked clarkia has a low potential to occur in woodlands and grasslands on the project site. This species was not identified onsite during the May 2021 site survey, which was conducted when it would be evident and identifiable.

3.7.2 Tuolumne Button-Celery

Tuolumne button-celery is a CRPR 1B.2 species. Tuolumne button-celery is an annual or perennial herb found in mesic cismontane woodland, lower montane coniferous forest, and vernal pools from approximately 230 to 3,000 feet above mean sea level. Tuolumne button-celery blooms from May through August (CNPS 2023). The nearest documented occurrence of this species is for plants observed growing in a vernal pool in the Red Hills region in 1983, approximately 1.8 miles north of the project site (CDFW 2023a). One vernal pool in the southeastern corner of the project site provides habitat for this species. As such, Tuolumne button-celery has a moderate potential to occur in the vernal pool on the project site. This species was not identified onsite during the May 2021 site survey, which was conducted when it would be evident and identifiable.

3.7.3 Spiny-Sepaled Button-Celery

Spiny-sepaled button-celery is a CRPR 1B.2 species. Spiny-sepaled button-celery is an annual or perennial herb found in valley and foothill grassland, and vernal pools from approximately 262 to 3,195 feet above mean sea level. Spiny-sepaled button-celery blooms from April through June (CNPS 2023). The nearest documented

occurrence of this species is for plants observed growing in the vicinity of Shotgun Creek in 1994, approximately 4 miles northwest of the project site in 1994 (CDFW 2023a). One vernal pool in the southeastern corner of the project site provides habitat for this species. As such, Spiny-sepaled button-celery has a moderate potential to occur in the vernal pool on the project site. This species was not identified onsite during the May 2021 site survey, which was conducted when it would be evident and identifiable.

3.7.4 Stanislaus Monkeyflower

Stanislaus monkeyflower is CRPR 1B.1 species. Stanislaus monkeyflower is an annual herb found in cismontane woodland and lower montane coniferous forest from approximately 325 to 2,950 feet above mean sea level. Stanislaus monkeyflower blooms from March through May (CNPS 2023). The Jepson Flora Project (2020) describes habitat as, "Seeps, streambanks," and Calflora (2020) describes habitat as "yellow pine forest." This species was identified in the northern portion of the project site during the May 2021 rare plant survey (refer to Table 5 below).

Table 5. Special-Status Plant Resources Mapped on the Project Site

Record ID	Species	GPS Coordinates (Lat/Long)	Habitat Type	Estimated Population Size	Area (square foot)
ERYMAR-01	Stanislaus monkeyflower	37.842815, -120.502612	Spikerush marsh	40	93
ERYMAR-02	Stanislaus monkeyflower	37.842079, -120.502590	Cattail marsh	7	34
ERYMAR-03	Stanislaus monkeyflower	37.842597, -120.503034	Spikerush marsh	150	221

3.7.5 Forked Hare-Leaf

Forked hare-leaf is a CRPR 1B.1 species. Forked hare-leaf is an annual herb found in cismontane woodland, valley and foothill grassland from approximately 148 to 1,095 feet above mean sea level. Forked hare-leaf blooms from April to May (CNPS 2023). There are three documented occurrences of this species approximately 8 miles west of the project site, with the most recent for plants observed growing among moist rocks and catchments in the vicinity of Sawmill Creek in 2000 (CDFW 2023a). The project site provides limited undisturbed grassland and woodland habitat for this species. As such, forked hare-leaf has a low potential to occur in woodlands and grasslands on the project site. This species was not identified onsite during the May 2021 site survey, which was conducted when it would be evident and identifiable.

3.7.6 Veiny Monardella

Veiny monardella is a CRPR 1B.1 species. Veiny monardella is an annual herb found in cismontane woodland, valley and foothill grassland from approximately 197 to 1,345 feet above mean sea level. Veiny monardella blooms from May to July (CNPS 2023). The nearest documented occurrence is for plants observed growing in undisturbed seasonally wet grassland in the Table Mountain region in July 1998, approximately 5.4 miles north of the project site (CDFW 2023a). The project site provides limited undisturbed grassland and woodland habitat

for this species. As such, veiny monardella has a low potential to occur in woodlands and grasslands on the project site. This species was not identified onsite during the May 2021 site survey, which was conducted when it would be evident and identifiable.

3.7.7 Patterson's Navarretia

Patterson's navarretia is a CRPR 1B.3 species. Patterson's navarretia is an annual herb found in meadows and seeps, serpentinite, openings, and vernally mesic areas, including drainages from approximately 492 to 1,410 feet above mean sea level. Patterson's navarretia blooms from May through July (CNPS 2023). The nearest documented occurrence of this species is for plants observed growing in a seep in 2009, approximately 290 feet north of the project site (CDFW 2023a). Plants in the genus *Navarretia* were documented in a vernal pool during the December 2020 field survey, which was conducted outside of the typical bloom period for this species and when it would be evident and identifiable. For these reasons, Patterson's navarretia has a high potential to occur in the vernal pool on the project site. This species was not identified onsite during the May 2021 site survey, which was conducted when it would be evident and identifiable.

3.8 Special-Status Wildlife Species

Results of the USFWS and CNDDB searches revealed 27 special-status wildlife species that are known to occur in the project site region (see Attachment B). Of these, 20 species were removed from consideration due to lack of suitable habitat within or adjacent to the project site or due to the site being outside of the species' known geographic or elevation range. The remaining seven special-status wildlife species are present or have some potential to occur on the project site and are discussed below. In addition, the project site provides habitat for nesting birds protected by the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC), as well as native bats protected by the CFGC.

3.8.1 California Red-Legged Frog

California red-legged frog (CRLF) is a federally threatened species and a CDFW species of special concern with a low potential to occur in the perennial pond on the project site. CRLF occur in different habitats depending on their life stage, the season, and weather conditions. Breeding habitat includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams. CRLF also breed in artificial impoundments including stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds with dense growths of woody riparian vegetation, especially willows (*Salix* spp.) are preferred, although the absence of vegetation at an aquatic site does not rule out the possibility of occupancy. Adult CRLF prefer dense, shrubby, or emergent riparian vegetation near deep (≥2 to 3 feet), still or slow-moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail occur adjacent to open water.

Aquatic habitats on the project site were evaluated as potential breeding and summer refugia habitat for CRLF during the site assessment conducted in May 2021 along with the combined field data from the site visits in December 2020 and March 2023. Refer to the separate CRLF Site Assessment report for additional information.

While suitable aquatic and upland habitat exists within the project site, CRLF are not known to occur anywhere near the project site and may be extirpated from the local region. The nearest documented occurrence of CRLF is associated with lower elevation Woods Creek, approximately 5 miles northeast of the project site. However, the

record is based on collections in April 1950 from a population now considered potentially extirpated (eradicated) (CDFW 2023a). Few CRLF occurrences in the project site region may be a result of scarce survey data for the region and does not on its own imply species absence.

Dudek biologist Andy Hatch submitted the CRLF Site Assessment report to the USFWS via email on January 31, 2024. Upon review of the report and proposed project layout (dated 12/11/23), the USFWS requested field data from at least one protocol day and night survey for CRLF at the project site (pers comm Rick Kuyper 2024).

3.8.2 California Tiger Salamander

California tiger salamander (CTS; Central Valley distinct population segment) is listed as a federal and state threatened species. CTS occur more often in grassland habitats but may also occur in open woodland habitats and uncommonly along stream courses in riparian habitats. Adult CTS spend most of the year underground in the burrows of small mammals. Adults migrate in mass to breeding habitat, such as vernal pools, seasonal ponds, artificial impoundments, and other ephemeral waterbodies, on a few rainy nights per year between November and February (or sometimes as early as October or as late as May). Permanent or deeper water bodies are sometimes used for reproduction if predatory fish and bullfrogs are absent. Streams and creeks are rarely used for reproduction. Larvae metamorphose during late spring or early summer, usually by the first week of July. Continuous inundation for a minimum of 12 weeks is required for egg laying through metamorphosis, although some larvae may remain in aquatic habitat for up to 6 months until metamorphosis, depending on water depth and temperature (USFWS 2024a; USFWS 2017).

While potentially suitable aquatic and upland habitat may exist within the project site, CTS is not known to occur in region of the project site. The nearest CTS occurrence is located approximately 8 miles southwest of the project site, between Warnerville and Cooperstown in Stanislaus County. This record is based on larvae collections from a non-specific location in April 1994 and March 1995 (CDFW 2023a).

While coordinating with the USFWS regarding CRLF (discussed in Section 3.8.1 above), the USFWS requested that a habitat assessment for California tiger salamander be completed at the project site. Recent species records from Mariposa County and other neighboring counties indicate that the project site is located within the species' known elevation range (pers comm Rick Kuyper 2024).

3.8.3 Northwestern Pond Turtle

Northwestern pond turtle is a CDFW species of special concern that was observed in the perennial pond in the northern portion of the project site. This species is found in rivers, lakes, streams, ponds, wetlands, ephemeral creeks, reservoirs, agricultural ditches, estuaries, and brackish waters. Northwestern pond turtles prefer areas that provide cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Northwestern pond turtles spend a large portion of the warmer months (April through September) in aquatic habitats that provide favorable environments for foraging, mating, basking, and predator avoidance (CDFW 2020; Germano and Rathbun 2008).

Terrestrial habitats may be used by northwestern pond turtle for wintering and usually consist of burrows in leaves and soil. Northwestern pond turtles typically lay their eggs in terrestrial habitats near water. Along foothill

streams, females may climb hillsides, sometimes traveling over 330 feet to find a suitable nest site. Generally, 3 to 11 eggs are laid from March to August depending on local conditions and are incubated for approximately 73 to 80 days. Although nesting sites should contain deep soils (at least 4 inches deep), the type of soil can vary from sandy to very hard (CDFW 2020).

The perennial pond (P-01) on the project site provides occupied, suitable aquatic habitat, and the adjacent uplands, wetlands, and riparian areas provide nesting and overwintering habitat for northwestern pond turtle. The detention basins (DB-01 through DB-05) provide poor quality aquatic habitat for northwestern pond turtle due to a lack of cover and basking sites and limited suitable nesting habitat nearby. Northwestern pond turtle could use drainages (ED-01 through 03, ID-01 through 02) as dispersal habitat, but the potential for this species to use these drainages is low due to the isolated nature of these features, as well as barriers to dispersal posed by wire mesh fences and culverts. In addition, berms, disturbed/developed areas, and dense vegetation south of the perennial pond likely reduce the ability of northwestern pond turtle to access aquatic habitat further south within the project site.

3.8.4 Tricolored Blackbird

Tricolored blackbird is a state threatened species with a moderate potential to occur on the project site. This species nests in freshwater marshes with dense growths of emergent vegetation dominated by cattails or bulrushes (*Schoenoplectus* spp.), but has also established colonies in willows, blackberries (*Rubus* spp.), and a variety of other types of dense vegetation, such as thistles (*Cirsium and Centaurea* spp.), nettles (*Urtica* sp.), mustard (*Brassica* sp.), mallow (*Malva* sp.), wild rose (*Rosa* sp.), tamarisk (*Tamarix* sp.), and giant cane (*Arundo donax*). Tricolored blackbirds forage in a variety of habitats, such as grasslands, woodlands, and croplands, where high densities of suitable insect prey are found. Foraging habitat may be located up to four miles from the nesting site (CDFW 2020; CDFW 2018b). In the Sierra Nevada foothills, tricolored blackbird typical begin nesting in May or June (USFWS 2019).

The project site is located within the species known geographic range, and the freshwater emergent wetland (FEW-02) and riparian woodland in the northern portion of the site provide nesting habitat for tricolored blackbird. Foraging habitat on the project site is limited to absent, but widespread within natural woodland and grassland areas within 5 miles of the project site. There are numerous documented occurrences of this species within one mile of the project site. The nearest documented colony of nesting tricolored blackbird (Occurrence #958) is located near the junction of SR-120 and SR-108, approximately 3 miles north of the project site (CDFW 2023a). No tricolored blackbirds were detected during the field surveys.

3.8.5 Native Bats (including Pallid Bat, Townsend's Big-Eared Bat, and Western Red Bat)

The project site provides potential roosting habitat for three special-status bats (pallid bat, Townsend's big-eared bat, and western red bat) and other native bats protected by regulations defined in the CFGC. Pallid bat typically roosts in remote areas containing rocky outcrops for roosting and open waters or grasslands for foraging. Townsend's big-eared bat normally occupy remote mesic habitats and roost in limestone caves, lava tubes, and human-made structures. Western red bat typically roosts in tree canopy and forage in forest, woodland, riparian, and orchard habitat (CDFW 2020).

The project site is located within the known geographic range of pallid bat, Townsend's big-eared bat, and western red bat and contains suitable roosting and foraging habitat for these species. There are documented occurrences of pallid bat, Townsend's big-eared bat, and western red bat approximately 6 to 7 miles northwest to west of the project site; two of the occurrences are from 2001 and the other from 1999 (CDFW 2023a). Although the occurrences are relatively old and distant, mature cottonwood trees (or other trees with exfoliating bark, crevices, and/or sufficient foliage) in the riparian woodland and abandoned structures on project site provide good quality bat roosting habitat, and aquatic resources on the project site provide foraging habitat for bats. No active bat roosts or signs of occupation, such as guano or staining, were detected during the December 2020 field survey nor the May 2021 roost assessment.

3.8.6 Nesting Birds and Raptors

The project site provides suitable nesting habitat for numerous local and migratory bird or raptor species protected by the federal MBTA and the CFGC. Specifically, trees, shrubs, and human-made structures and buildings on the project site provide suitable nesting habitat. Multiple bird species were detected during the December 2020, May 2021, and March 2023 field surveys (refer to Attachment D). No active bird nests were observed, but a focused survey for nests was not conducted. One adult barn owl (*Tyto alba*) was observed roosting in an existing building in the eastern half of the project site during the May 2021 field survey; no active nest was found after surveying the interior of the building, but several owl pellets and white wash were observed just inside the entrance of the building.

3.9 Sensitive Vegetation Communities

Spikerush marsh and riparian woodland in the northeastern portion of the project site are identified as sensitive vegetation communities by CDFW (CDFW 2023b). In addition, riparian scrub and cattail marsh abutting the perennial pond are vegetation communities likely regulated by CDFW as part of the lake or stream zone pursuant to Section 1600 et. seq. of the CFGC.

4 Conclusions and Recommendations

4.1 Special-Status Plants

Based on a field assessment and relevant literature, eight special-status plant species have a varied potential to occur in undisturbed woodland and grassland habitat and/or vernal pools on the project site. Of these, four species are considered to have a low potential to occur and thus, no impacts to these species are anticipated. Three of the remaining special-status plant species (Tuolumne button-celery, spiny-sepaled button-celery, and Patterson's navarretia) have a moderate to high potential to occur in the vernal pool in the southeastern corner of the project site; none of these species were identified during the May 2021 rare plant survey, conducted when these species would be evident and identifiable. Several populations of Stanislaus monkeyflower (CRPR 1B.1 species) were mapped in the northern portion of the project site. To avoid/minimize the potential for impacts to these species, Dudek recommends implementing the following measures:

- Stanislaus monkeyflower shall be included in the worker environmental awareness program, which will educate staff on the presence of special-status plant species and ways to avoid and minimize impacts.

- Where ground-disturbance will occur within 50 feet of habitat supporting Stanislaus monkeyflower (i.e., riparian woodland, intermittent drainage, and FEW-02 in the northern portion of the project site), focused surveys for special-status plant species shall be conducted by a qualified botanist, pursuant to the CNPS Botanical Survey Guidelines (CNPS 2001) and the Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018a), prior to the commencement of construction-related activities. The surveys shall be conducted in the season prior to ground-disturbance between March and May when this species would be evident and identifiable.
- Should rare plants be documented within 50 feet of the construction footprint, avoidance measures shall be implemented to minimize indirect impacts to individual plants wherever feasible. These measures include the following:
  - Adjustments to the limits of grading boundaries to confine work to avoid populations of special-status plants by at least 50 feet or as otherwise determined by a qualified botanist and in consideration of the type and extent of ground disturbance, potential for indirect impacts following ground disturbance activities, topography, and other factors.
- Prior to construction activities, a qualified botanist shall flag or fence the location of special-status plant populations and the corresponding avoidance setback. This flagging shall be in addition to, and distinguished apart from, any required construction boundary fencing. The construction contractor shall be responsible for maintaining the flagging through the duration of construction. The flagging (or similar) shall be removed immediately following construction.

Although Stanislaus monkeyflower is not state- or federally-listed as threatened or endangered, they are listed as a CRPR List 1 species and as such, are considered a special-status species pursuant to CEQA. Therefore, impacts to these species would be considered a potentially significant impact under CEQA. If these species are mapped in areas proposed to be impacted, and if impacts to the plants cannot be avoided, appropriate measures would need to be implemented to mitigate, pursuant to CEQA, the loss of any plants. If avoidance is not feasible, Dudek recommends implementing the following measure:

- If avoidance of Stanislaus monkeyflower plants is not feasible, a Rare Plant Salvage and Translocation Plan shall be prepared by a qualified botanist prior to implementation. The Rare Plant Salvage and Translocation Plan shall be approved by the County and CDFW and shall include, at a minimum: identification of occupied habitat to be preserved and removed; identification of on-site or off-site preservation, restoration, enhancement, or translocation locations; methods for preservation, restoration, enhancement, and/or translocation; goals and objectives; replacement ratio and success standard of 1:1 for impacted to established acreage; a monitoring program to ensure mitigation success; adaptive management and remedial measures in the event that the performance standards are not achieved; and financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.

Because of the presence of suitable habitat and because the special-status plant species described above are known to occur in the project region, there is potential for individuals or populations of some of these species to become established in the project area during future growing seasons. Many special-status plant species are annuals and thus may lie dormant in seedbanks or shift geographic locations based on annual weather conditions. Consequently, CDFW recommends repeat surveys, often on an annual basis and in changeable habitats, such as annual grasslands (CDFW 2018). Thus, per guidance in the CDFW plant protocols (CDFW 2018) to reflect habitat

conditions, the following measure is recommended to avoid or minimize potential impacts on special-status plants should they become established in the project site at a future date:

- If construction of the project does not take place within 3 years of the rare plant survey conducted in May 2021, additional special-status plant surveys are recommended during the appropriate blooming period prior to the initiation of ground-disturbing activities. If any special-status plant species are observed during surveys, a suitable avoidance buffer will be determined and flagged by a qualified biologist based on species, location, and planned construction activity. If avoidance is not possible, consultation with CDFW and/or USFWS, depending on the status of the species and especially if the species is state- and/or federally listed as threatened or endangered, will be initiated to determine if transplantation, seed salvage, or another propagation measure is appropriate to conserve the species.

4.2 Special-Status Wildlife

California Red-legged Frog. The project site is located within the geographic range for CRLF and may contain potentially suitable habitat for this species. Eventual development on the project site could impact this species if present within the construction footprint prior to ground disturbance. Direct or indirect impacts to CRLF would likely be considered a potentially significant impact under CEQA. Therefore, Dudek recommends implementing the following measures to avoid or minimize impacts to this species:

- To determine if any aquatic habitat features in the northern portion of the site are occupied by California red-legged frog, a qualified biologist will conduct a single breeding season survey in accordance with USFWS' *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). After the survey, the biologist will report the results to the appropriate USFWS office to determine if additional surveys are warranted. If the survey is negative and the USFWS determines that further surveys are unnecessary because the site is unoccupied by California red-legged frog, no additional actions would be necessary.
- If the California red-legged frog survey results are inconclusive and the USFWS determines that additional surveys are necessary, the biologist will conduct up to seven additional breeding surveys in accordance with USFWS (2005). If these surveys are negative, the site will be assumed to be unoccupied by California red-legged frog and no additional actions would be necessary.
- If California red-legged frogs are found occupying any aquatic features at any time during the above surveys, additional measures would need to be implemented. For example, compensatory mitigation for impacts on California red-legged frog habitat will be provided at a minimum 2:1 ratio. Replacement habitat will be in-kind and located on site, if feasible.

California Tiger Salamander. The project site is located within the geographic and elevational range for CTS and may contain potentially suitable habitat for this species. Eventual development on the project site could impact this species if present within the construction footprint prior to ground disturbance. Direct or indirect impacts to CTS would likely be considered a potentially significant impact under CEQA. Therefore, Dudek recommends implementing the following measures to avoid or minimize impacts to this species:

- To address uncertainty on the status of California tiger salamander in the site vicinity, a qualified biologist will prepare a formal site assessment for California tiger salamander in accordance with USFWS' and

CDFW's *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS and CDFG 2003). If the site assessment determines and USFWS and CDFW agree that California tiger salamander occurrence on the site is not expected, no additional actions would be necessary.

- If the site assessment and/or USFWS or CDFW determine that formal surveys are needed to determine California tiger salamander presence or absence on the site, the project proponent may conduct multi-year aquatic larval and upland drift fence surveys in accordance with USFWS and CDFW (2003), or assume that California tiger salamanders are present and mitigate accordingly as part of the Section 7 consultation process.
- If California tiger salamanders are found occupying the site during surveys or are assumed present, compensatory mitigation for impacts on California tiger salamander habitat will be provided at a minimum 2:1 ratio. Replacement habitat will be in-kind and located on site, if feasible.

Northwestern Pond Turtle. Northwestern pond turtles were observed in the perennial pond on the project site during the May 2021 field survey. Eventual development on the project site could impact this species if nesting or aestivation sites or individual turtles are present within the construction footprint prior to ground disturbance. Direct or indirect impacts to northwestern pond turtle would likely be considered a potentially significant impact under CEQA. Dudek recommends avoiding impacts to suitable aquatic and upland habitat for northwestern pond turtle. If avoidance is not feasible, Dudek recommends implementing the following measures to avoid or minimize impacts to this species:

- No ground-disturbance will be permitted within 1,640 feet (500 meters) of suitable aquatic habitat for northwestern pond turtle during the turtle overwintering period from October to March.
- No ground-disturbance will be permitted within 656 feet (200 meters) of aquatic habitat occupied by northwestern pond turtle.
- The project proponent will implement applicable Best Management Practices (BMPs) for northwestern pond turtle in accordance with the most recent and agency-accepted guidelines available at the time of project implementation (e.g., Department of Defense (DOD) Legacy Resource Management Program 2020 and Oregon Department of Fish and Wildlife 2015).
- If ground-disturbance within 1,640 feet (500 meters) of suitable aquatic habitat from October to March or 656 feet (200 meters) of occupied aquatic habitat is not feasible, the project proponent will consult with USFWS on appropriate measures to identify and avoid take of any northwestern pond turtles nesting in the construction footprint. These measures may include all or a combination of the following to avoid take of nesting pond turtles:
  - Qualified biologists shall conduct visual encounter surveys for pond turtle nests or evidence of nesting from May to June prior to any ground disturbance within the above buffers. A minimum 50-foot-radius exclusion zone shall be established around any pond turtle nests or suspected nests found during the visual encounter surveys using high-visibility fencing. The exclusion zone shall remain in effect until the biologist has verified that the nest is no longer active.
  - Occupied aquatic habitat shall be isolated from adjacent upland nesting habitat within the construction footprint before April in the year of construction. The intent of this measure is to ensure that once hatchling pond turtles leave their upland nests in April, no additional nests will be established in the construction footprint during the following season. Unclimbable, smooth fencing

(e.g., Animex HDPE#2 material or wooden fencing) will be installed at the interface between aquatic and upland habitat. The fencing will be maintained between its installation and project start with regular monitoring (1 to 2 hours of observation every monitoring period) to ensure that turtles and other special-status species are not being entrapped by the fencing.

Tricolored Blackbird. Wetlands and riparian areas in the northern portion of the project site provide nesting habitat for tricolored blackbird. As a state-listed species, impacts to tricolored blackbird would be considered "take" under CESA as well as a significant impact under CEQA. If "take" of tricolored blackbird is anticipated, the project would require consultation and subsequent authorization in the form of a CDFW Incidental Take Permit pursuant to Section 2081 of CESA. Dudek recommends avoiding impacts to suitable nesting habitat for tricolored blackbird and areas within 50 to 300 feet of suitable nesting habitat. If avoidance is not feasible, Dudek recommends implementing the following measures to avoid or minimize impacts to this species:

- As feasible, vegetation removal and demolition activities will be conducted August through February, outside of the bird nesting season.
- A qualified biologist shall conduct a pre-construction survey for nesting birds no more than seven days prior to vegetation or tree removal or ground-disturbing activities during the nesting season (March through August). The survey should cover the limits of construction and suitable nesting habitat within 500 feet for raptors and 100 feet for other nesting birds, as feasible.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance will typically range from 50 to 300 feet, and should be determined based on factors such as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests should be established in the field with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.
- If vegetation removal activities are delayed, additional nest surveys should be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through February) to avoid impacts to nesting birds.
- If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest should be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- Tricolored blackbird shall be included in the worker environmental awareness program, which will educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

Native Roosting Bats (Pallid Bat, Western Red Bat, and Townsend's Big-Eared Bat). If bats are roosting on the project site, direct impacts to individual bats could result from the removal of roosting sites, such as rock outcrops, trees, and snags. Should individual bats be roosting during construction activities, removal of active day roost sites that would result in the harm or mortality of native bats and would be considered a violation of the take provisions of Section 4150 of the CFGC for non-game mammals (including native bats). To avoid or minimize the potential for take of roosting bats, Dudek recommends implementing the following measures:

- Native bats, including pallid bat and Townsend's big-eared bat shall be included in the worker environmental awareness program, which will educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
- If bats are determined to be using on-site structures/resources for day roosts and such areas cannot be completely avoided, the individuals shall be safely evicted under the direction of the qualified bat biologist. If individuals cannot be safely evicted due to factors such as lack of alternative roosting sites, as determined by the qualified bat biologist, ground-disturbing activities within a specified distance of the roost (specified distance to be determined by the bat biologist, based on surroundings and vulnerability of roost site, etc.) shall be postponed or halted until conditions are suitable for safe eviction or the roost has vacated naturally.

Nesting Birds. Eventual development on the project site could involve tree and vegetation removal, which has the potential to impact nesting birds protected by the federal MBTA and California Fish and Game Code if such removal occurred during the typical nesting season for the project region (February through July). To avoid impacting active nests, Dudek recommends conducting tree or vegetation removal outside of the nesting season. If not feasible, Dudek recommends implementing measures to avoid or minimize impacts to nesting birds. Avoidance and minimization measures for nesting birds will be the same as those described for tricolored blackbird, above.

4.3 Aquatic Resources

Dudek biologists delineated approximately 9.47 acres of aquatic resources potentially subject to USACE, RWQCB, and/or CDFW jurisdiction. In addition, approximately 1 acre of riparian woodland was mapped as a CDFW-only aquatic resource. Findings with regard to federal jurisdiction are preliminary until verified by the Sacramento District of the USACE.

Dudek recommends that eventual development on the project site avoid aquatic resources where possible. Impacts to jurisdictional aquatic resources would be considered a significant impact under CEQA and may also require aquatic resource permits from the USACE, RWQCB, and/or CDFW (e.g., 401 Waste Discharge Requirements and 1602 Streambed Alteration Agreement), as well as an aquatic resources verification from the USACE. In addition, compensatory mitigation may be required for permanent impacts to aquatic resources to ensure no net loss of these resources. Potential compensatory mitigation options include purchasing mitigation credits from an agency-approved wetlands mitigation bank or paying an agency-approved in-lieu fee. Where direct impacts to jurisdictional aquatic resources can be avoided, exclusion fencing should be installed between the avoided aquatic resource and limits of disturbance to protect from indirect impacts. A qualified wetland specialist should guide installation of the exclusion fencing. Appropriate best management practices and spill prevention measures should also be implemented to ensure protection of jurisdictional aquatic resources during project construction.

4.4 Sensitive Natural Communities

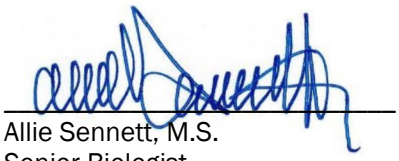
Spikerush marsh and riparian woodland mapped in the northeastern portion of the project site are identified as sensitive vegetation communities by CDFW. In addition, riparian scrub and cattail marsh abutting the perennial pond on the project site are vegetation communities likely regulated by CDFW as part of the lake or stream zone

pursuant to Section 1600 of the CFGC. Impacts to sensitive natural communities, including removal and trimming, would be considered a significant impact under CEQA without appropriate mitigation. Dudek recommends limiting disturbance or removal of these communities to the maximum extent feasible. If disturbance is necessary, Dudek recommends implementing the following measures to avoid or minimize impacts to sensitive natural communities:

- To the extent feasible, the spikerush marsh, riparian woodland/scrub, and cattail marsh habitat mapped on the project site shall be avoided. If no direct impacts to these vegetation communities are anticipated, avoidance/exclusion fencing should be installed between these habitats and the limits of disturbance to protect these areas from indirect impacts. A qualified wetland specialist should guide installation of the avoidance/exclusion fencing. A 15-foot avoidance setback for these types of habitat is recommended.
- If impacts to the spikerush marsh, riparian woodland/scrub, and/or cattail marsh habitat are unavoidable, then the following measures to minimize impacts area recommended:
  - Prior to the initiation of ground-disturbing activities in riparian habitat, the limits of disturbance and avoided habitat should be fenced (e.g., mesh exclusion fencing, flagging, or similar). No construction, staging, or other ground-disturbing activities should be permitted beyond the construction fence. Construction contractors should be responsible for establishing and maintaining appropriate Best Management Practices prior to, during, and following ground disturbance.
  - Temporarily disturbed areas in the spikerush marsh, riparian woodland/scrub, and/or cattail marsh habitat should be revegetated following construction and prior to the first rain event (more than one half inch of precipitation in a 24-hour period). Reseeded areas should be covered with a biodegradable erosion control fabric to prevent erosion and downstream sedimentation. The project engineer should determine the specifications needed for erosion control fabric based on anticipated maximum flow velocities and soil types. No seed of non-native species should be used unless certified to be sterile and derived from a local source appropriate to the project region.

If you have any questions or concerns regarding the content of this report, please contact me at 916.521.5798 or asennett@dudek.com.

Sincerely,



Allie Sennett, M.S.
Senior Biologist

Att.: *Figure 1 – Project Location*
Figure 2 – Project Site
Figure 3 – Soils
Figure 4 – Hydrologic Setting
Figure 5 – Vegetation Communities and Land Cover Types
A – Special-Status Plant Species Potential to Occur Within the Project Site Region
B – Special-Status Wildlife Species Potential to Occur Within the Project Site Region
C – Representative Project Site Photographs
D – List of Plant and Wildlife Species Observed

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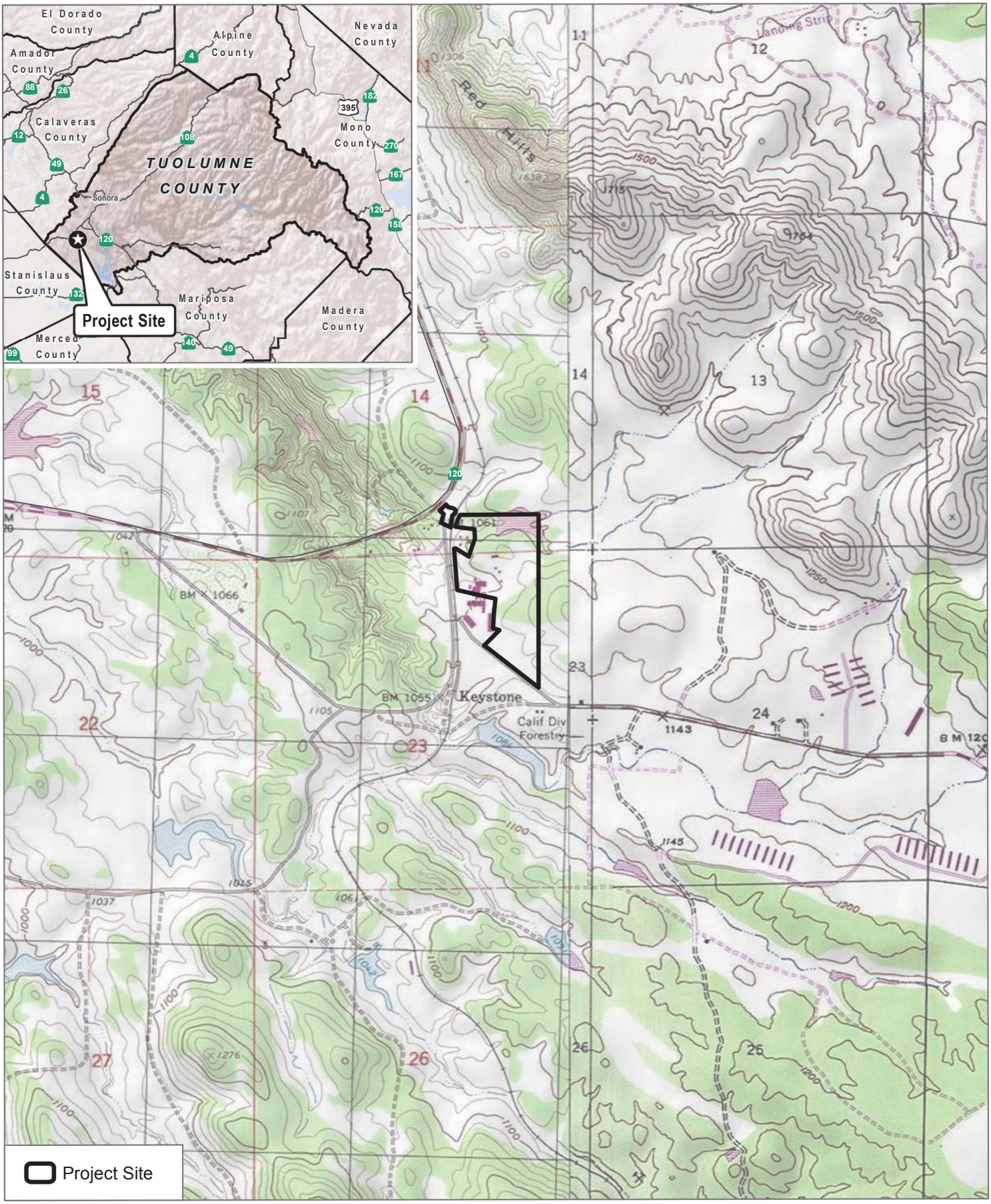


SOURCE: USGS 7.5-Minute Series Keystone Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Forest Resiliency Program - Tuolumne Facility

SOURCE: Bing Maps (Accessed 2023), Tuolumne County 2020

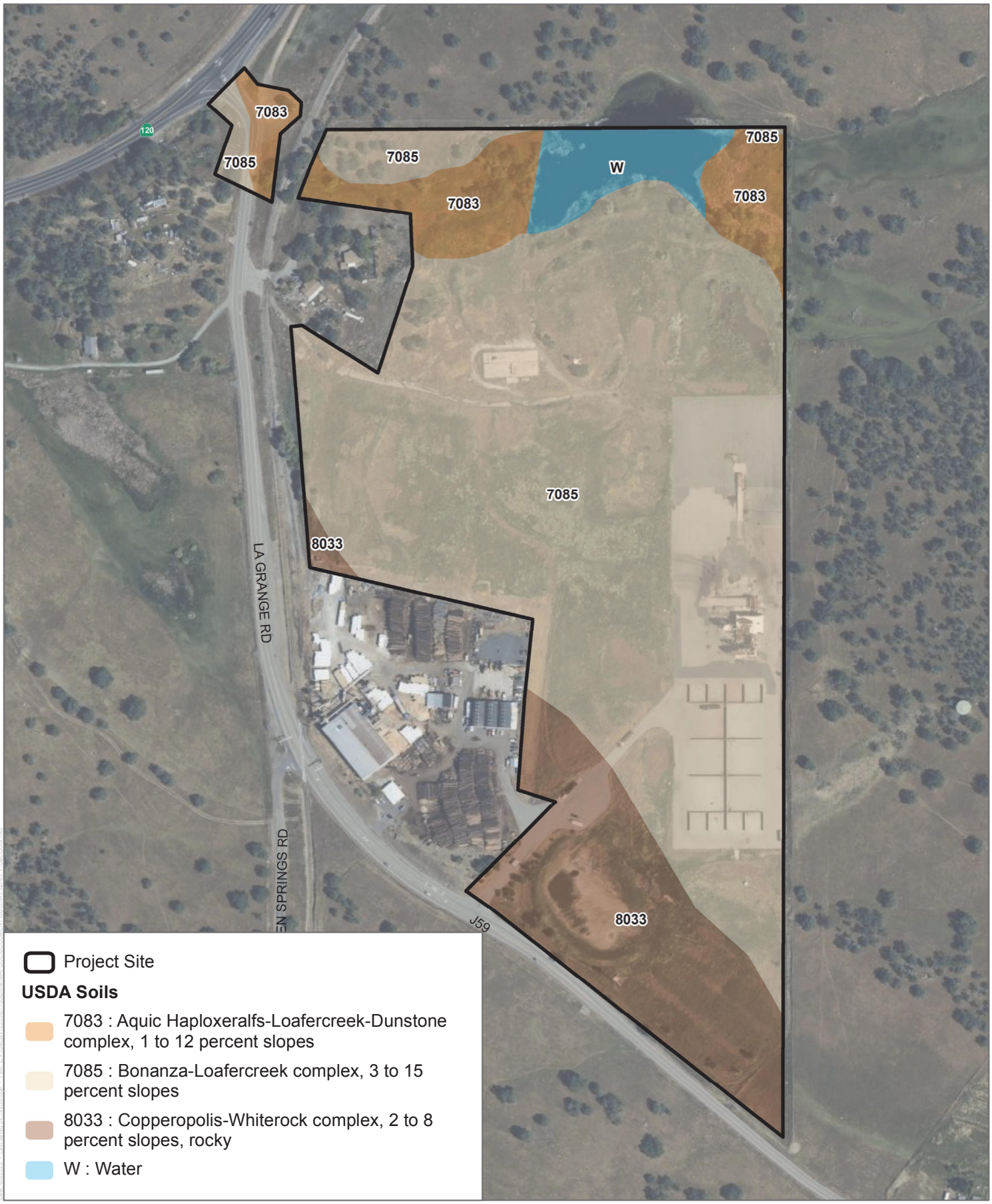
DUDEK

0 175 350 Feet

FIGURE 2

Project Site

Forest Resiliency Program - Tuolumne Facility



SOURCE: Bing Maps (Accessed 2023), Tuolumne County 2020, USDA SSURGO 2003

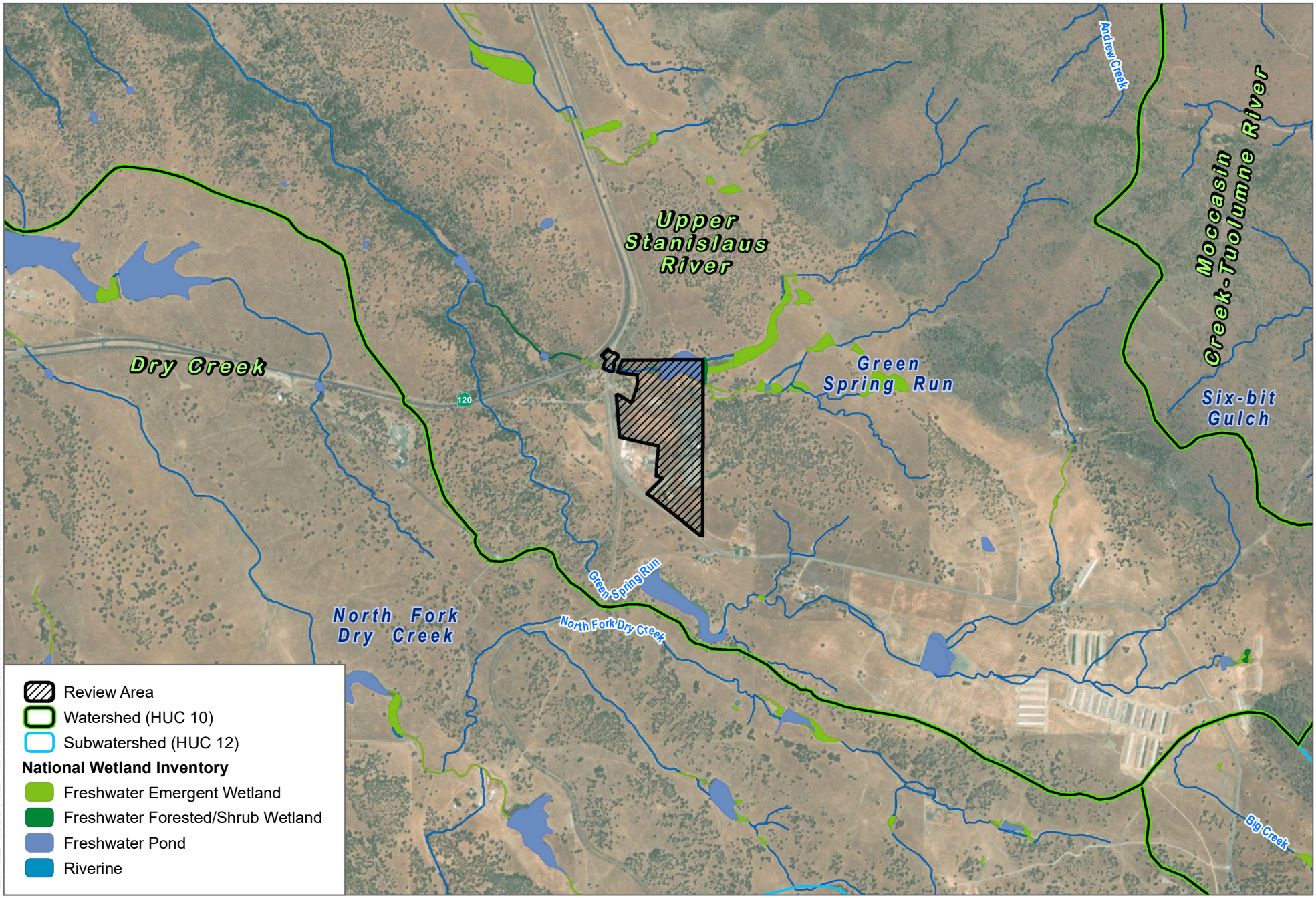
DUDEK

0 175 350 Feet

FIGURE 3

Soils

Forest Resiliency Program - Tuolumne Facility



SOURCE: USGS 2019, USFWS 2019, ESRI (Accssed 2020)

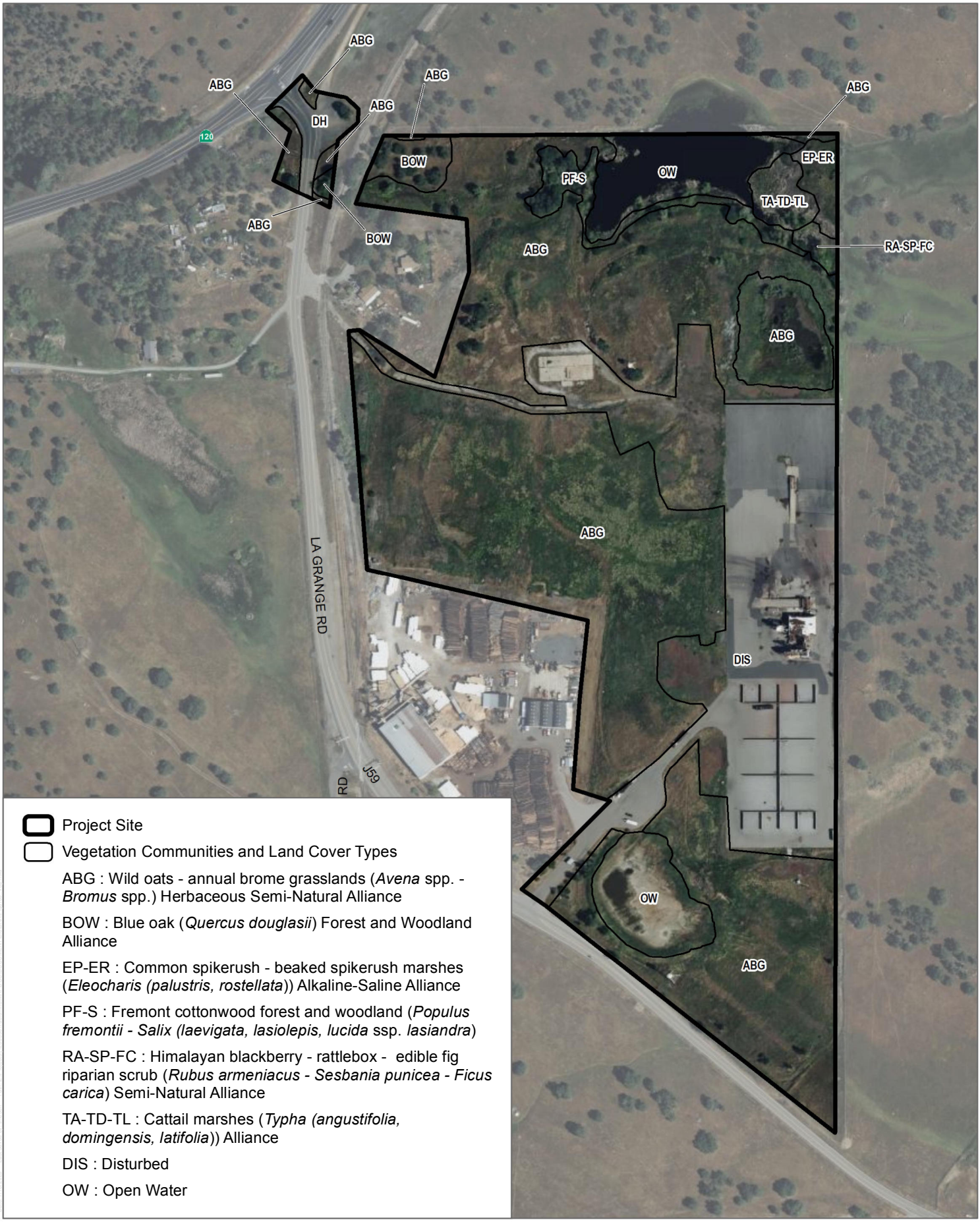
DUDEK

0 1,000 2,000 Feet

FIGURE 4

Hydrologic Setting

Forest Resiliency Program - Tuolumne Facility



SOURCE: Bing Maps Sept 2015 - Mar 2017

DUDEK

0 175 350 Feet

FIGURE 5

Vegetation Communities and Land Cover Types

Forest Resiliency Program - Tuolumne Facility

Attachment A

Special-Status Plant Species Potential to Occur in the Project Site Region

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Allium jepsonii	Jepson's onion	None/None/1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest; Serpentinite or volcanic/perennial bulbiferous herb/Apr–Aug/ 984–4,330	**Not expected to occur.** The project site lacks suitable soils. The nearest documented occurrence that includes location and habitat details is for plants growing in serpentine soil approximately 8.3 miles northeast of the project site in 1991 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Allium tuolumnense	Rawhide Hill onion	None/None/1B.2	Cismontane woodland (serpentinite)/perennial bulbiferous herb/Mar–May/984–1,965	**Not expected to occur.** The project site lacks suitable soils. Although there are multiple documented occurrences within 2.5 miles of the site with the most recent documentation in 2018, these records are limited to areas containing serpentine soils (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Arctostaphylos nissenana	Nissenan manzanita	None/None/1B.2	Closed-cone coniferous forest, Chaparral; rocky/perennial evergreen shrub/Feb–Mar(June)/ 1,475–3,605	**Not expected to occur.** The site is outside of the species' known elevation range and the project site lacks suitable habitat for this species. The nearest documented occurrence that includes location and habitat details is for plants growing in strongly acidic soils, approximately 10.6 miles northeast of the project site in 2009 (CDFW 2023a). In addition, this species was not documented in the project site during the rare plant survey conducted when this perennial shrub would be evident and identifiable.
Balsamorhiza macrolepis	big-scale balsamroot	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; sometimes serpentinite/perennial herb/Mar–June/148–5,100	**Not expected to occur.** The project site lacks suitable soils. The nearest documented occurrence, which lack specific location and habitat details, is based on a 1925 collection,

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				approximately 10.7 miles northeast of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Brodiaea pallida	Chinese Camp brodiaea	FT/SE/1B.1	Cismontane woodland, Valley and foothill grassland; vernal streambeds, often serpentinite/ perennial bulbiferous herb/ May–June/541–1,260	**Not expected to occur.** The project site lacks suitable soils. The nearest documented occurrence is for plants growing in intermittent streambeds with serpentine soils, approximately 3.5 miles northeast of the project site in 2008 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Calycadenia hooveri	Hoover's calycadenia	None/None/1B.3	Cismontane woodland, Valley and foothill grassland; rocky/annual herb/July–Sep/213–985	**Not expected to occur.** The project site lacks rocky soils within grassland or woodland habitat. The nearest documented occurrence is for plants growing on a rocky, exposed hilltop within specialty lone soils, approximately 7.3 miles southwest of the project site in 1977 (CDFW 2023a).
Castilleja campestris var. *succulenta*	succulent owl's-clover	FT/SE/1B.2	Vernal pools (often acidic)/annual herb (hemiparasitic)/(Mar)Apr–May/ 164–2,460	**Not expected to occur.** This species is not known to occur in Tuolumne County (CNPS 2023). The nearest documented occurrence is from 1978, approximately 8.0 miles southwest of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Chlorogalum grandiflorum	Red Hills soaproot	None/None/1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest; serpentinite, gabbroic and other soils/perennial bulbiferous herb/ May–June/804–5,540	**Not expected to occur.** Though this species has been documented multiple times within 2 miles northeast of the project site with the most recent documentation in 2013 (CDFW 2023a), the project site lacks suitable habitat for this species. In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Clarkia biloba ssp. *australis*	Mariposa clarkia	None/None/1B.2	Chaparral, Cismontane woodland; serpentinite/annual herb/Apr–July/ 984–4,790	**Not expected to occur.** The project site lacks serpentine soil required for this species. This species has been documented multiple times within approximately 3 miles north and northeast of the project site with the most recent documentation in 2017 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Clarkia rostrata	beaked clarkia	None/None/1B.3	Cismontane woodland, Valley and foothill grassland/annual herb/ Apr–May/197–1,640	**Low potential to occur.** The project site includes foothill grassland suitable for this species. The nearest and most recent documentation of this species is approximately 5 miles northwest of the project site in 1994 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Cryptantha hooveri	Hoover's cryptantha	None/None/1A	Inland dunes, Valley and foothill grassland (sandy)/annual herb/ Apr–May/30–490	**Not expected to occur.** The site is outside of the species' known elevation range. The nearest documented occurrence is approximately 6 miles south of the project site (Calflora 2023). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Cryptantha mariposae	Mariposa cryptantha	None/None/1B.3	Chaparral (serpentinite, rocky)/ annual herb/Apr–June/656–2,130	Not expected to occur. The project site lacks serpentine soil required by this species. This species has been documented approximately 1 mile north and northeast of the project site in 1998 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Cryptantha spithamaea	Red Hills cryptantha	None/None/1B.3	Chaparral, Cismontane woodland; serpentinite, sometimes streambeds, sometimes openings/ annual herb/Apr–May/902–1,505	**Not expected to occur.** The project site lacks suitable soils. The nearest and most recent documentation of this species is approximately 3.2 miles east of the project site in 1998 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Downingia pusilla	dwarf downingia	None/None/2B.2	Valley and foothill grassland (mesic), Vernal pools/annual herb/ Mar–May/3–1,455	**Not expected to occur.** This species is not known to occur in Tuolumne County (CNPS 2023). The nearest documented occurrence of this species is from 1977, approximately 7.5 miles southwest of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Eryngium pinnatisectum	Tuolumne button-celery	None/None/1B.2	Cismontane woodland, Lower montane coniferous forest, Vernal pools; mesic/annual/perennial herb/May–Aug/230–3,000	**Moderate potential to occur.** One vernal pool in the southeastern corner of the project site provides habitat for this species. The nearest documented occurrence is from 1983 and located approximately 1.8 miles north of the project site (CDFW 2023a; Occ. No. 2). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Eryngium spinosepalum	spiny-sepaled button-celery	None/None/1B.2	Valley and foothill grassland, Vernal pools/annual / perennial herb/ Apr–June/262–3,195	**Moderate potential to occur.** One vernal pool in the southeastern corner of the project site provides habitat for this species. The nearest documented occurrence is from 1994 and located approximately 4 miles northwest of the project site (CDFW 2023a; Occ. No. 24). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Erythranthe marmorata	Stanislaus monkeyflower	None/None/1B.1	Cismontane woodland, Lower montane coniferous forest/annual herb/Mar–May/328–2,950	**Present.** Two populations and one individual of this species were mapped in the northern portion of the project site during the May 2021 rare plant survey.
Euphorbia hooveri	Hoover's spurge	FT/None/1B.2	Vernal pools/annual herb/ July–Sep(Oct)/82–820	**Not expected to occur.** This species is not known to occur in Tuolumne County (CNPS 2023). In addition, there are no documented occurrences of this species within 10 miles of the project site (CDFW 2023a).
Githopsis tenella	delicate bluecup	None/None/1B.3	Chaparral, Cismontane woodland; mesic, serpentinite/annual herb/ Apr–June/1,065–6,230	**Not expected to occur.** The project site lacks suitable soils. The nearest documented occurrence is from 2005 and located approximately 1.1 miles northeast of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Lagophylla dichotoma	forked hare-leaf	None/None/1B.1	Cismontane woodland, Valley and foothill grassland; Sometimes clay/annual herb/Apr–May/ 148–1,095	**Low potential to occur.** The project site includes foothill grassland habitat suitable for this species. There are three documented occurrences approximately 8 miles west, northwest, and southwest of the project site with the most recent occurrence in 2000 (CDFW 2023a; Occ. No 16). In addition, this species was not documented in the project site

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				during the May 2021 rare plant survey when this species would be evident and identifiable.
Lomatium congdonii	Congdon's lomatium	None/None/1B.2	Chaparral, Cismontane woodland; serpentinite/perennial herb/ Mar–June/984–6,885	**Not expected to occur.** The project site lacks suitable soils. There are multiple documented occurrences within 2.5 miles of the project site with the most recent occurrence in 2013 (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Lupinus spectabilis	shaggyhair lupine	None/None/1B.2	Chaparral, Cismontane woodland; serpentinite/annual herb/Apr–May/ 853–2,705	**Not expected to occur.** The project site lacks suitable soils. The nearest documented occurrence is from 1998 and located approximately 5.5 miles north of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Monardella leucocephala	Merced monardella	None/None/1A	Valley and foothill grassland (sandy, mesic)/annual herb/May–Aug/ 115–330	**Not expected to occur**. The project site is outside of the species' known elevation range. This species is not known to occur in Tuolumne County (CNPS 2023). There are no documented occurrences within 10 miles of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Monardella venosa	veiny monardella	None/None/1B.1	Cismontane woodland, Valley and foothill grassland; heavy clay/annual herb/May–July/197–1,345	**Low potential to occur.** The project site includes foothill grassland habitat that may be suitable for this species. The nearest documented occurrence is from 1998 and located approximately 5.4 miles north of the project site (CDFW 2023a; Occ. No. 4). In addition, this species was not documented in the project site

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				during the May 2021 rare plant survey when this species would be evident and identifiable.
Navarretia paradoxiclara	Patterson's navarretia	None/None/1B.3	Meadows and seeps; Serpentinite, openings, vernally mesic, often drainages/annual herb/ May–June(July)/492–1,410	**High potential to occur.** One vernal pool in the southeastern corner of the project site provides habitat for this species. The nearest documented occurrence is from 2009 and located less than 300 feet north of the site (CDFW 2023a; Occ. No. 3). This species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Neostapfia colusana	Colusa grass	FT/SE/1B.1	Vernal pools (adobe, large)/annual herb/May–Aug/16–655	**Not expected to occur**. The project site is outside of the species' known elevation range, and this species is not known to occur in Tuolumne County (CNPS 2023). The nearest documented occurrence is from 2017 and located approximately 8 miles southwest of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	FT/SE/1B.1	Vernal pools/annual herb/Apr–Sep/ 33–2,475	**Not expected to occur**. This species is not known to occur in Tuolumne County (CNPS 2023). There are no documented occurrences within 10 miles of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Orcuttia pilosa	hairy Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/ May–Sep/150–655	**Not expected to occur.** This species is not known to occur in Tuolumne County (CNPS 2023). There are no documented occurrences within 10 miles of the project site (CDFW 2023a). In addition, this species was not

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Packera layneae	Layne's ragwort	FT/SR/1B.2	Chaparral, Cismontane woodland; serpentinite or gabbroic, rocky/ perennial herb/Apr–Aug/656–3,555	**Not expected to occur.** The project site lacks suitable soils. The nearest documented occurrence is from 1987 and located approximately 2.5 miles east of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Pseudobahia bahiifolia	Hartweg's golden sunburst	FE/SE/1B.1	Cismontane woodland, Valley and foothill grassland; clay, often acidic/ annual herb/Mar–Apr/49–490	**Not expected to occur.** The site is outside of the species' known elevation range and lacks suitable soils. The nearest documented occurrences are from 2010 and located approximately 7.5 miles west and southwest of the project site (CDFW 2023a).
Scopelophila cataractae	tongue-leaf copper moss	None/None/2B.2	Cismontane woodland/moss// 1,310–1,310	**Not expected to occur.** The site lacks suitable habitat and is outside of the species' known elevation range. This species is not known to occur in Tuolumne County (CNPS 2023). There are no documented occurrences within 10 miles of the project site (CDFW 2023a).
Senecio clevelandii var. *heterophyllus*	Red Hills ragwort	None/None/1B.2	Cismontane woodland/perennial herb/May–July/855–1,260	**Not expected to occur.** The project site lacks suitable habitat. The nearest documented occurrences are from 2015 and located approximately 2.2 miles north and east of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Tuctoria greenei	Greene's tuctoria	FE/SR/1B.1	Vernal pools/annual herb/ May–July(Sep)/98–3,510	**Not expected to occur.** This species is not known to occur in Tuolumne County (CNPS 2023). There are no documentations of this

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				species within 10 miles of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Verbena californica	Red Hills vervain	FT/ST/1B.1	Cismontane woodland, Valley and foothill grassland; mesic, usually serpentinite seeps or creeks/ perennial herb/May–Sep/ 853–1,310	**Not expected to occur.** The project site is outside of the species' known geographic range (i.e., Red Hills). The nearest documented occurrence associated with the Red Hills population, is from 2015 and approximately 1.7 miles north of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.
Wolffia brasiliensis	Brazilian watermeal	None/None/2B.3	Marshes and swamps/perennial herb (aquatic)/Apr–Dec/65–330	**Not expected to occur.** The site is outside of the species' known elevation range and the species is not known to occur in Tuolumne County (CNPS 2023). There are no documented occurrences within 10 miles of the project site (CDFW 2023a). In addition, this species was not documented in the project site during the May 2021 rare plant survey when this species would be evident and identifiable.

Status Legend:

FE: Federally listed as endangered
FT: Federally listed as threatened
SE: State listed as endangered
ST: State listed as threatened
SR: State Rare
CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Attachment B

Special-Status Wildlife Species Potential to Occur in the Project Site Region

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibian				
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	FT/ST, WL	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent	**Low potential to occur.** Although the project site is within the species' known geographic range, there are no known breeding populations within 7 miles of the project site. The nearest documented occurrence is a historical record from 1995, located approximately 7.8 miles southwest of the project site (CDFW 2023a).
Rana boylii pop. 5	foothill yellow-legged frog - south Sierra DPS	FPE/SE	Rocky streams and rivers with open banks in forest, chaparral, and woodland	**Not expected to occur.** The project site is located at the eastern extent the species' known geographic range in the region, and there is no suitable aquatic habitat present on the project site. The nearest documented occurrence is for several tadpoles observed in a seasonal serpentine stream in 1997, located approximately 2.2 miles north of the project site (CDFW 2023a).
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**Low potential to occur.** Although the project site is within the species' known geographic range, there are no known breeding populations in Tuolumne County.
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	**Not expected to occur.** The project site is located outside of the species' known geographic range and lacks suitable aquatic or upland habitat. The nearest documented occurrence is for larvae detected in 1994, approximately 7 miles southwest of the project site (CDFW 2023a).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Reptiles				
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	**Present.** This species was detected in the perennial pond in the northern portion of the site during the May 2021 field surveys. The pond provides suitable aquatic habitat, and the adjacent uplands or riparian areas provide nesting habitat for this species.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	**Not expected to occur.** The project site contains limited poor-quality habitat, and occurrences of this species in the project region are very rare. The nearest documented occurrence is from 2001, approximately 2.5 miles northeast of the project stie (CDFW 2023a).
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	**Moderate potential to occur.** The project site contains habitat and is located in the species' known geographic range. The nearest documented occurrence is from 2014, approximately 3.3 miles north of the project site (CDFW 2023a; Occ. No. 958).
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	**Not expected to occur.** The project site is located outside of the species' known breeding range, and records of this species are rare in the project region. In addition, there are no documented occurrences of this species within 10 miles of the project site (CDFW 2023a).
Haliaeetus leucocephalus (nesting and wintering)	bald eagle	FPD/FP, SE	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	**Not expected to occur.** Although the project site is in the species' known breeding range, the site and surrounding areas lack large water bodies with suitable nesting sites. The nearest documented breeding occurrence is for a nest adjacent to the Don

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				Pedro Reservoir, approximately 5 miles northeast of the project site in 2007 (CDFW 2023a).
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	**Not expected to occur.** The project site is located outside of the species' known breeding range, and breeding records of this species are extremely rare in the project region. In addition, there are no documented occurrences of this species within 10 miles of the project site (CDFW 2023a).
Fishes				
Acipenser medirostris pop. 1	green sturgeon - southern DPS	FT/None	Spawns in deep pools in large, turbulent, freshwater rivers; adults live in oceanic waters, bays, and estuaries	**Not expected to occur.** The project site lacks suitable aquatic habitat for this species. The nearest documented occurrence of this species is approximately 7 miles west of the project site in the Stanislaus River in 2017 (CDFW 2023a).
Hesperoleucus symmetricus serpentinus	Red Hills roach	None/SSC	Spring-fed intermittent creeks and small streams near Sonora. May be confined to pools and perennial stream reaches during summer and drought.	**Not expected to occur.** Although there are multiple documented occurrences of this species within 3 miles of the project site, the site lacks creek habitat preferred by this species. The nearest documented occurrence is located approximately 1 mile east of the project site in 2000. (CDFW 2023a)
Hesperoleucus symmetricus symmetricus	San Joaquin roach	None/SSC	Found in the Sacramento and San Joaquin drainages, except Pit River, as well as tributaries draining to San Francisco Bay. Generally found in small warm streams, and dense populations are frequently sighted in isolated pools in intermittent streams. Most abundant in mid-elevation streams in the Sierra foothills and in the lower reaches of some coastal streams.	**Not expected to occur.** The project site is located outside of the species' known geographic range and no suitable aquatic habitat is present. The nearest documented occurrence of this species is approximately 8 miles northeast of the project site in 1998 (CDFW 2023a).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			Spawning occurs in shallow, flowing areas where the bottom is covered with small rocks (Moyle 2002).	
Hypomesus transpacificus	Delta smelt	FT/SE	Sacramento–San Joaquin Delta; seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	**Not expected to occur.** The project site is located outside of the species' known geographic range and no suitable aquatic habitat is present. In addition, there are no documented occurrences of this species within 10 miles of the project site (CDFW 2023a).
Mylopharodon conocephalus	hardhead	None/SSC	Low- to mid-elevation streams in the Sacramento–San Joaquin drainage; also present in the Russian River	**Not expected to occur.** Although the project site is in the species' known geographic range, records of this species are extremely rare in the project region. The nearest documented occurrence is located in the Tuolumne River, approximately 11.6 miles south of the project site in 2008 (CDFW 2023a).
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	FT/None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead	**Not expected to occur.** The project site lacks suitable aquatic habitat for this species. The nearest documented occurrence of this species is approximately 7 miles west of the project site in the Stanislaus River in 2014 (CDFW 2023a).
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	**Moderate potential to occur.** Abandoned buildings and mature trees on the project site provide roosting habitat. The nearest documented occurrence is for one adult trapped in canyon habitat along the Stanislaus River in 2001, approximately 6 miles northwest of the project site (CDFW 2023a; Occ. No. 64).
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat,	**Low potential to occur.** The project site is located in an area of regular human

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	disturbance and lacks suitable preferred roosting features, such as abandoned buildings, mine shafts, tunnels, and limestone. The nearest documented occurrence is for this species roosting in an old mine shaft within canyon habitat along the Stanislaus River (detected in 1948 and 2001), approximately 7 miles west of the project site (CDFW 2023a; Occ. No 37).
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	**Not expected to occur**. The project site lacks canyon and cliff habitat preferred by this species. The nearest documented occurrence is for several individuals roosting in the basalt cliffs of the Table Mountain area in 1995, approximately 2.3 miles north of the project site (CDFW 2023a).
Lasiurus frantzii	western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	**Moderate potential to occur**. Mature trees on the project site provide roosting habitat. The nearest documented occurrence is for this species detected within canyon habitat along the Stanislaus River in 1999, approximately 7.3 miles west of the project site (CDFW 2023a; Occ. No. 72).
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Not expected to occur.** Although the project site is in the species' known geographic range, the site is located in an area of regular human disturbance and no suitable burrows were observed during the fieldwork. In addition, there are no documented occurrences within 10 miles of the project site (CDFW 2023a).
Vulpes macrotis mutica	San Joaquin kit fox	FE/ST	Grasslands and scrublands, including those that have been modified; oak	**Not expected to occur.** The project site is outside of the species' known geographic range and lacks habitat. In addition, there

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			woodland, alkali sink scrubland, vernal pool, and alkali meadow	are no documented occurrences within 10 miles of the project site (CDFW 2023a).
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/PSE	Open grassland and scrub communities supporting suitable floral resources.	**Not expected to occur.** The project site lacks grassland and scrub habitat with abundant year-long floral resources. The nearest documented occurrence is based on 1915 and 1919 collections, approximately 7.8 miles northeast of the project site (CDFW 2023a). No overwintering habitat was identified on the project site during the field survey.
Branchinecta conservatio	Conservancy fairy shrimp	FE/None	Larger, more turbid vernal pools, playa pools	**Not expected to occur.** Although the project site contains a vernal pool in the southeast corner, there are no documented occurrences of this species within 10 miles of the project site (CDFW 2023a).
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	**Not expected to occur.** Although the project site contains a vernal pool in the southeast corner, it does not provide suitable aquatic habitat. The nearest documented occurrence is from vernal pool habitat in bedrock or lava cap-weathered soils, approximately 2.9 miles north of the project site in 2008 (CDFW 2023a).
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/None	Occurs only in the Central Valley of California, in association with blue elderberry (Sambucus nigra ssp. caerulea)	**Not expected to occur.** The project site lacks elderberry shrubs as required by this species. The nearest documented occurrence is from 2007, approximately 3 miles north of the project site (CDFW 2023a).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Lepidurus packardi	vernal pool tadpole shrimp	FE/None	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales	**Not expected to occur.** Although the project site contains a vernal pool in the southeast corner, the nearest documented occurrence is from 2001 in vernal pool habitat within volcanic mudflow soils, approximately 7.1 miles west of the project site (CDFW 2023a).

Status Legend:

FE: Federally Endangered
FT: Federally Threatened
FPD: Federally proposed for delisting
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened
PSE: Proposed State Endangered

Attachment C

Representative Project Site Photographs

Photo 1. View facing south at a detention basin (DB-02) located in the northeast portion of the project site (December 10, 2020).

Photo 2. View facing northeast at a perennial pond (P-01) located in the northern portion of the project site (December 10, 2020).

Photo 3. View facing southeast at detention basin (DB-01) located in the southern portion of the project site (December 10, 2020).

Photo 4. View facing southeast at a freshwater emergent wetland (FEW-01) located in the southern portion of the project site (December 10, 2020).

Photo 5. View facing southeast at a perennial drainage and adjacent developed area located in the eastern portion of the project site (December 10, 2020).

Photo 6. View facing southwest an intermittent drainage (ID-01) located in the northern portion of the project site. Annual grassland dominates the adjacent uplands (December 10, 2020).

Photo 7. View facing west at blue oak woodland located in the northwest portion of the project site (December 10, 2020).

Photo 8. View facing northwest at annual grassland and adjacent riparian scrub located in the northeast portion of the project site (December 10, 2020).

Photo 9. View of Stanislaus monkeyflower (*Erythranthe marmorata*) identified and mapped in the northeastern portion of the project site (May 17, 2021).

Attachment D

List of Plant and Wildlife Species Observed

Plant Species

Eudicots

Vascular Species

ADOXACEAE – MUSKROOT FAMILY

Sambucus nigra – blue elderberry

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus* – prostrate pigweed

ANACARDIACEAE – SUMAC OR CASHEW FAMILY

Toxicodendron diversilobum – poison oak

APIACEAE – CARROT FAMILY

* *Anthriscus caucalis* – bur chervil
* *Conium maculatum* – poison hemlock

Daucus pusillus – American wild carrot

Eryngium vaseyi – coyotethistle

APOCYNACEAE – DOGBANE FAMILY

Asclepias fascicularis – Mexican whorled milkweed

ASTERACEAE – SUNFLOWER FAMILY

Achyrachaena mollis – blow wives

Baccharis pilularis – coyote brush

* *Carduus pycnocephalus* – Italian plumeless thistle
* *Centaurea solstitialis* – yellow star-thistle
* *Cotula coronopilfolia* – brass buttons
* *Dittrichia graveolens* – stinkwort
* *Erigeron bonariensis* – asthmaweed

Erigeron canadensis – Canadian horseweed

Grindelia camporum – Great Valley gumweed

Helianthus annuus – common sunflower

Heterotheca grandiflora – telegraphweed

Holocarpha virgata – yellowflower tarweed

* *Hypochaeris glabra* – smooth cat's ear
* *Hypochaeris radicata* – hairy cat’s ear
* *Lactuca serriola* – prickly lettuce

Lasthenia glabrata – yellowray goldfields

Madia subspicata – slender tarweed
Micropus californicus var. *californicus* – q-tips
* *Silybum marianum* – blessed milkthistle
* *Sonchus asper* – spiny sowthistle
Xanthium strumarium – cocklebur

BORAGINACEAE – BORAGE FAMILY

Phacelia cicutaria – caterpillar phacelia
Plagiobothrys bracteatus – bracted popcornflower
Plagiobothrys stipitatus – stalked popcornflower

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
Cardamine oligosperma – little western bittercress
Lepidium nitidum – shining pepperweed
* *Sisymbrium irio* – London rocket

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

Lonicera hispidula – pink honeysuckle
Lonicera interrupta – chaparral honeysuckle

CARYOPHYLLACEAE – PINK FAMILY

* *Silene gallica* – common catchfly
* *Spergularia rubra* – red sandspurry
* *Stellaria media* – common chickweed

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Salsola tragus* – prickly Russian thistle

CONVOLVULACEAE – MORNING-GLORY FAMILY

* *Convolvulus arvensis* – field bindweed

ERICACEAE – HEATH FAMILY

Arctostaphylos manzanita – common manzanita

FABACEAE – LEGUME FAMILY

Acmispon americanus – Spanish clover
* *Lotus corniculatus* – bird's-foot trefoil
Lupinus bicolor – miniature lupine
* *Medicago lupulina* – black medick
* *Medicago polymorpha* – burclover
* *Melilotus indi*cus – annual yellow sweetclover

* *Trifolium dubium* – suckling clover
* *Trifolium glomeratum* – clustered clover
* *Trifolium hirtum* – rose clover
* *Vicia sativa* – garden vetch
* *Vicia villosa* – winter vetch

FAGACEAE – OAK FAMILY

Quercus douglasii – blue oak
Quercus wislizeni – interior live oak

GENTIANACEAE – GENTIAN FAMILY

Zeltnera muehlenbergii – Muhlenberg's centaury

GERANIACEAE – GERANIUM FAMILY

* *Erodium botrys* – longbeak stork's bill
* *Erodium cicutarium* – redstem stork's bill
* *Geranium dissectum* – cutleaf geranium

GROSSULARIACEAE – GOOSEBERRY FAMILY

Ribes quercetorum – oak gooseberry

LAMIACEAE – MINT FAMILY

Stachys albens – whitestem hedgenettle
Trichostema lanceolatum – vinegarweed
Trichostema laxum – turpentine weed

LYTHRACEAE – LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia* – hyssop loosestrife

MALVACEAE – MALLOW FAMILY

Sidalcea diploscypha – fringed checkerbloom

MONTIACEAE – MONTIA FAMILY

* *Claytonia parviflora* – streambank springbeauty

MORACEAE – MULBERRY FAMILY

* *Ficus carica* – edible fig
* *Morus alba* – white mulberry

MYRSINACEAE – MYRSINE FAMILY

* *Lysimachia arvensis* – scarlet pimpernel

ONAGRACEAE – EVENING PRIMROSE FAMILY

Clarkia purpurea – winecup clarkia
Epilobium brachycarpum – tall annual willowherb
Epilobium ciliatum – fringed willowherb

PLANTAGINACEAE – PLANTAIN FAMILY

Plantago erecta – dwarf plantain
* *Veronica anagallis-aquatica* – water speedwell

POLYGONACEAE – BUCKWHEAT FAMILY

* *Rumex crispus* – curly dock
* *Rumex pulcher* – fiddle dock

RANUNCULACEAE – BUTTERCUP FAMILY

Ranunculus californicus – California buttercup

RHAMNACEAE – BUCKTHORN FAMILY

Frangula californica – California coffee berry
Rhamnus ilicifolia – hollyleaf redberry

ROSACEAE – ROSE FAMILY

Heteromeles arbutifolia – toyon
Horkelia californica – California horkelia
Rosa californica – California rose
* *Rubus armeniacus* – Himalayan blackberry

RUBIACEAE – MADDER FAMILY

Galium aparine – stickywilly
Galium porrigens – graceful bedstraw

SALICACEAE – WILLOW FAMILY

Populus fremontii – Fremont cottonwood
Salix exigua – sandbar willow
Salix gooddingii – Goodding's willow
Salix laevigata – red willow
Salix lasiolepis – arroyo willow

SAPINDACEAE – SOAPBERRY FAMILY

Aesculus californica – California buckeye

SCROPHULARIACEAE – FIGWORT FAMILY

* *Verbascum virgatum* – wand mullein

SOLANACEAE – NIGHTSHADE FAMILY

Datura wrightii – sacred thorn-apple

VISCACEAE – MISTLETOE FAMILY

Phoradendron leucarpum – oak mistletoe

VITACEAE – GRAPE FAMILY

Vitis californica – California wild grape

Gymnosperms and Gnetophytes

Vascular Species

PINACEAE—PINE FAMILY

Picea breweriana – Brewer spruce

Pinus sabiniana – foothill pine

Tsuga heterophylla – western hemlock

Monocots

Vascular Species

AGAVACEAE – AGAVE FAMILY

Chlorogalum pomeridianum – wavyleaf soap plant

ALISMATACEAE – WATER-PLANTAIN FAMILY

Alisma triviale – northern water plantain

CYPERACEAE – SEDGE FAMILY

Eleocharis macrostachya – pale spike rush

JUNCACEAE – RUSH FAMILY

Juncus balticus – no common name

Juncus bufonius – toad rush

Juncus xiphioides – irisleaf rush

POACEAE – GRASS FAMILY

* *Aira caryophyllea* – silver hairgrass
* *Avena barbata* – slender oat
* *Avena fatua* – wild oat
* *Briza minor* – little quakinggrass
* *Bromus hordeaceus* – soft brome

* *Crypsis schoenoides* – swamp pricklegrass
* *Cynodon dactylon* – Bermudagrass
* *Distichlis spicata* – salt grass
* *Elymus caput-medusae* – medusahead
* *Festuca myuros* – rat-tail fescue
* *Festuca perennis* – perennial rye grass
* *Holcus lanatus* – common velvet grass
* *Hordeum marinum* – seaside barley
* *Hordeum murinum* – mouse barley

  Panicum capillare – witchgrass
* *Polypogon monspeliensis* – annual rabbitsfoot grass

THEMIDACEAE – BRODIAEA FAMILY

Brodiaea elegans – harvest brodiaea

TYPHACEAE – CATTAIL FAMILY

Typha latifolia – broadleaf cattail

* Indicates non-native species.

Wildlife Species

Birds

Blackbird, Orioles, and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe

Tyrannus verticalis – western kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Aquila chrysaetos – golden eagle

Buteo jamaicensis – red-tailed hawk

PANDIONIDAE – OSPREYS

Pandion haliaetus – osprey

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Corvus corax – common raven

New World Vultures

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

Owls

TYTONIDAE – BARN OWLS

Tyto alba – barn owl

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Quails, Pheasants and Relatives

PHASIANIDAE – PARTRIDGES, GROUSE, TURKEYS, AND OLD WORLD QUAIL

Phasianus colchicus – ring-necked pheasant

Rails, Gallinules and Coots

RALLIDAE – RAILS, GALLINULES, AND COOTS

Fulica americana – American coot

Gallinula galeata – common gallinule

Shorebirds

CHARADRIIDAE – LAPWINGS AND PLOVERS

Charadrius vociferus – killdeer

SCOLOPACIDAE – SANDPIPERS, PHALAROPES, AND ALLIES

Tringa melanoleuca – greater yellowlegs

Titmice

PARIDAE – CHICKADEES AND TITMICE

Baeolophus inornatus – oak titmouse

Waterfowl

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

Bucephala albeola – bufflehead

Oxyura jamaicensis – ruddy duck

Woodpeckers

PICIDAE – WOODPECKERS AND ALLIES

Melanerpes formicivorus – acorn woodpecker

Melanerpes lewis – Lewis's woodpecker

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Zonotrichia leucophrys – white-crowned sparrow

Mammals

Canids

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

Reptiles

Snakes

COLUBRIDAE – COLUBRID SNAKES

Thamnophis sirtalis – common gartersnake