Appendix B

Biological Resources Assessment

Kernville Raw Water Intake Upgrade Project

Biological Resources Assessment

prepared for

California Water Service
Kern River Valley District
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March 2025

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Executive Summary

This document presents the findings of a Biological Resources Assessment prepared by Rincon Consultants, Inc. (Rincon) for the proposed raw water intake upgrade project in the Kern River in Kernville, California. California Water Service is proposing to replace an existing raw water intake system, which diverts water from the north fork of the Kern River to the Kernville Water Treatment Plant.

Rincon evaluated 70 special-status plant species and 41 special-status wildlife species for their potential to occur within the project Study Area. Six special-status plant species were determined to have a low potential to occur within the Study Area. Twenty-five special-status animal species were determined to have low potential to occur. One special-status reptile (southern Sierra legless lizard [*Anniella campi*]), one special-status bird (yellow-breasted chat [*Icteria virens*]) and one insect (Crotch's bumble bee [*Bombus crotchii*]) were determined to have moderate potential to occur. One special-status fish (Kern River rainbow trout [*Onchorhynchus mykiss gilberti*]) and one special-status bird (yellow warbler [*Setophaga petechia*]) were determined to have a high potential to occur. Great Valley Cottonwood, a sensitive natural community, is present on the Study Area. No federally designated critical habitat is present.

The results of this assessment indicate the proposed project could adversely impact the aforementioned special-status species and sensitive habitat. However, impacts will be reduced to less-than-significant levels by incorporating protective measures and an on-site restoration plan outlined herein.

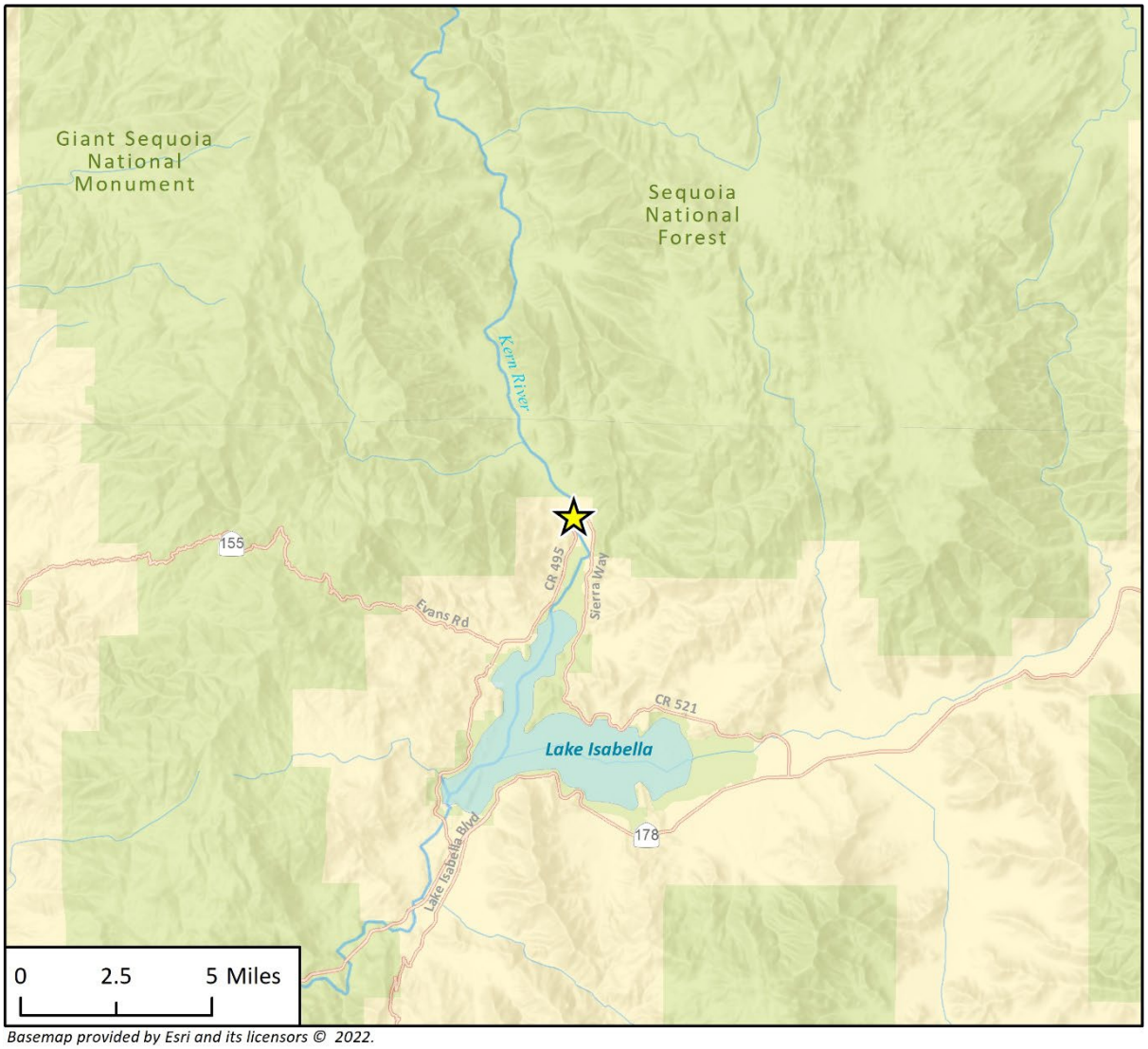
1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) to provide California Water Service (Cal Water) with an assessment of the potential impacts to the biological resources associated with the implementation of the Kernville Raw Water Intake project (project). This report documents the existing conditions in the Study Area and evaluates the potential for impacts to special-status species, sensitive communities, jurisdictional waters (Kern River), wildlife movement, and locally protected resources, such as native trees. The biological evaluation herein includes the results of a background literature review and site reconnaissance surveys conducted by Rincon biologists on September 13, 2022. This evaluation was updated in May of 2024 following changes to the project description. A desktop analysis of the updated project components was conducted to verify the existing conditions as of 2024.

1.1 Project Location

The Study Area is located in the census-designated town of Kernville in Kern County, California. The Study Area occurs along the western riverbank of the Kern River, approximately 100 feet northeast of the Sirretta Street and Kernville Road intersection. The Study Area analyzed in this report encompasses approximately 0.53 acre. The approximate center of the Study Area is located at latitude 35.755815° and longitude -118.422736° (WGS84). The Study Area is depicted on the *Kernville, California*, United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The Public Land Survey System depicts the Study Area within Township 25S, Range 33E, and Section 15, Mount Diablo Meridian. Local access to the Study Area is provided by Kernville Road, and regional access is provided by Sierra Way and Burlando Road. Specifically, the Study Area is accessed from a driveway located on the northern side of Kernville Road, southwest of the Study Area. Figure 1 depicts the regional location of the Study Area, and Figure 2 depicts the local vicinity of the Study Area.

Figure 1 Regional Location



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Project Location

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Figure 2 Study Area

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1.2 Description of Project

Cal Water is proposing to replace an existing raw water intake system, which diverts water from the north fork of Kern River to the Kernville Water Treatment Plant (WTP). The project components are discussed in more detail below. The information provided below is from the Preliminary Design Report prepared for the proposed project by Water Works Engineers (WWE) on January 7, 2022, as well as information provided by WWE in November 2022, March 2024, and May 2024. The State Water Resources Control Board (SWRCB) is the California Environmental Quality Act (CEQA) Lead Agency for the proposed project.

Existing Intake System

Cal Water owns and operates the Kernville WTP, located approximately 1,200 feet northwest of the Study Area. Cal Water is permitted to withdraw up to 1,000 acre-feet per year (AFY) of water from the Kern River. The proposed project would not change Cal Water's permitted water allocation.

Water is pumped from the Kern River to a 400,000-gallon storage tank at the Kernville WTP, where it is treated to potable standards and distributed to approximately 5,900 customers through approximately 4,300 service connections in Cal Water's North Region service area, including through the Kernville, Arden, Mountain Shadows, Ponderosa Pines, and Country Woods systems. The total maximum daily demand of the Kernville WTP is 1,000 gallons per minute (gpm).

The existing raw water intake system is located on the west side of the Kernville River. The existing raw water intake system, comprised of an infiltration gallery[1] and one 50-horsepower (hp) submersible pump, was designed with a capacity of 1,050 gpm. However, capacity has been limited due to operational constraints. Due to the limited operational capacity of the intake system, an auxiliary (i.e. emergency) raw water intake system, which utilizes a screened surface water intake (12-inch piping) with wire mesh intake screen and has a pumping capacity of 600 to 700 gpm, was installed approximately 100 feet upriver of the primary intake system to provide additional water supply during the non-winter months and low-flow periods during the winter months.

Proposed Intake System

Raw Water Intake Structure

To restore the Kern River water supply capacity, Cal Water is proposing to install a single, reliable 1,000 gpm raw water intake system to replace the existing raw water intake system and auxiliary intake system. The intent of the proposed project is to provide a more reliable system that can meet the design demand of 1,000 gpm. The proposed raw water intake system would be located downstream from the existing auxiliary intake system. The proposed raw water intake system would consist of an in-channel concrete intake structure, a self-cleaning cone screen, and two 50-hp submersible vertical turbine pumps (one primary pump and one backup pump).

Water from the Kern River would enter and flow through the concrete intake structure, through the self-cleaning cone screen, through a 12-inch pipe to the two parallel submersible vertical turbine pumps and tie in to the existing 6-inch raw water piping at the Kernville Station 003. Raw water would then be conveyed to the Kernville WTP. The concrete intake structure would be a precast concrete structure approximately 5 feet in depth with sides 8 feet in width and 8 feet in length. The self-cleaning cone screen would be located in the intake structure to prevent fish and smaller debris

[1] An infiltration gallery is a horizontal system of perforated pipes located below the riverbed.

from entering the turbine pumps. A stainless steel trash rack with 4-inch openings would be located at the inlet of the intake structure to prevent large debris from entering the intake structure and to protect the cone screen from damage.

Electrical Platform and Valve Vaults

A 211-square-foot electrical platform would be constructed. The dimensions of the electrical platform would be as follows: approximately 8 feet in length by 26.5 feet in width, and 16 feet in height, including the electrical panels above the platform. The electrical equipment required to power the new intake system would be located on the electrical platform and elevated above the 100-year floodplain. The new electrical equipment would include an electrical meter, a 200-amp (200A) circuit breaker, variable frequency drives for the intake pumps, a feeder breaker for the intake screen, a step-down transformer, and a lighting panel. In addition, a new control panel with a remote telemetry unit would allow for automatic control of the intake pumps from the Kernville WTP.

Two vaults (a pump vault and a flowmeter vault) would be constructed to house the pumps, valves, instrumentation (for example, a flowmeter and pressure gauge), and an in-line turbidimeter. Both vaults would be installed below existing grade. The pump vault consists of a lower portion that houses the pump cans and an upper portion that houses the pump motor and valves. The lower portion and the upper portion would be separate precast structures. The overall depth of the pump vault would be approximately 19 feet, 10 inches. A guard rail would be installed on the southeast side of the new pump vault. The dimensions of the 35-square-foot flowmeter vault would be as follows: approximately 5 feet in length by 7 feet in width, and 6.3 feet tall (4 inches in height above existing grade).

Existing and Auxiliary Intake Systems

The existing 125 square foot pump house structure would be demolished as well as the adjacent air tank, piping, and existing electrical panels.

The auxiliary intake system would operate during construction of the replacement intake system. However, the above ground auxiliary intake piping would also be demolished upon completion of the new intake structure. The existing below ground piping and the valve vault would remain in place.

The existing intake system would remain in place after construction as a backup intake system. However, this system is not expected to be used regularly after construction.

Fencing

The site currently does not include fencing. As part of the project, fencing would be provided only surrounding the electrical platform.

Lighting

Submersible lights controlled by a switch would be installed within the pump vault. Lighting would also be installed on the exterior of the electrical platform. No additional lighting would be installed.

River Bank Improvements

Rip rap would be placed 20 feet upstream and 20 feet downstream of the new intake structure to reduce riverbank erosion due to the new intake system.

Restoration

Approximately 30 cubic yards (CY) of reinforced, abandoned concrete blocks ranging in size from 1 to 3 CY each from previous bridge demolition would be removed from the Kern River bank, approximately 5 feet upstream from the existing auxiliary intake system.

Tree Removal

Thirteen on-site trees would be removed to accommodate the new water intake system.

Construction

Access

During project construction, access to the Study Area would be provided via a private access road, which is accessible from Kernville Road, directly northeast of its intersection with Sirretta Street. The private access road is located on the parcel directly adjacent to the west of the Study Area.

Staging

Construction staging would occur on the Study Area west of the riverbank.

Construction Personnel and Equipment

Project construction is anticipated to require between three to six construction personnel per day. Construction equipment would consist of backhoes, compressors, cranes, dumpers, excavators, generators, loaders, pumps, and rollers.

Dewatering and Flow Diversion

Due to the relatively shallow depth of the river, the construction area would be dewatered with the use of a temporary cofferdam system. The temporary cofferdam system would be installed prior to excavation so that dewatering activities can occur. The cofferdam system would keep the work area dry and prevent any sediment or construction debris from getting into the river. The cofferdam system would be a Portadam®, super sack system or other similar approved method. Construction would be limited to the months with the lowest historical water levels. Dewatering of the river would occur over approximately 2.5 months. Pile driving may be required if construction is extended to a time when water levels in the river are high.

In addition, due to high groundwater elevations on-site (9 feet below ground surface), groundwater dewatering would be required during construction of the underground facilities that would result in ground disturbing activities to depths greater than 9 feet below ground surface. Groundwater dewatering would occur over approximately 2.5 months. Cal Water intends to utilize a Baker Tank to store the dewatered groundwater and allow for sediment to settle prior to treatment and eventual discharge into the Kern River. Dewatered groundwater would be discharged to the Kern River in compliance with the requirements of the *Waste Discharge Requirements for Limited Threat Discharges to Surface Water* (Order R5-2022-0006-02), administered by the Central Valley Regional Water Quality Control Board (RWQCB). Cal Water would prepare and implement a Dewatering Plan, which would detail methods of dewatering, treatment, and disposal for river and groundwater dewatering.

Construction Schedule and Phasing

Construction is anticipated to take approximately 12 months, start in May 2026, and be completed by the end of January 2027. The proposed project would be implemented in the following phases: demolition, site preparation, grading, and construction.

Construction would occur Monday through Friday from 8 a.m. and 5 p.m. No nighttime construction would be required.

Grading and Soil Export

Project construction would disturb approximately 7,100 square feet of soil. Project construction would require approximately 320 CY of cut and 184 CY of fill. The maximum depth of excavation would vary by each component as follows: electrical platform (approximately 2 feet); flowmeter vault (approximately 7.3 feet); intake structure (approximately 7.7 feet); and pump vault (approximately 20.8 feet).

1.3 Regulatory Summary

Regulated or sensitive resources studied and analyzed herein include special-status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, regionally protected resources (e.g., from countywide Habitat Conservation Plans and Natural Community Conservation Plans), and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, State of California, and local authorities. The federal Endangered Species Act (ESA) provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The California Endangered Species Act (CESA) conserves and protects plant and animal species at risk of extinction.

Definition of Special-Status Species

For the purposes of this report, special-status species include:

- Species listed as threatened or endangered under the federal ESA; species that are under review may be included if there is a reasonable expectation of listing within the life of the project
- Species listed as candidate, rare, threatened, or endangered under the CESA or Native Plant Protection Act (NPPA)
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW)
- Plant taxa considered by CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR). CDFW’s CRPR system includes six rarity and endangerment ranks for categorizing plant species of concern:
  - CRPR 1A—Plants presumed to be extinct in California
  - CRPR 1B—Plants that are rare, threatened, or endangered in California and elsewhere
  - CRPR 2A—Plants presumed to be extinct in California but more common elsewhere
  - CRPR 2B—Plants that are rare, threatened, or endangered in California, but more common elsewhere
  - CRPR 3—Plants about which more information is needed (a review list)
  - CRPR 4—Plants of limited distribution (a watch list)

- Species designated as sensitive by the United States Forest Service or Bureau of Land Management, if the project would affect lands administered by these agencies
- Species designated as locally important by the local agency and/or otherwise protected through ordinance or local policy

Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

- CEQA
- ESA
- CESA
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Kern County General Plan
- Kern County Municipal Code

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the *CEQA Guidelines*, Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.

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

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

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

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

2 Methodology

2.1 Literature Review

Rincon biologists conducted a literature review to characterize the nature and extent of biological resources on and adjacent to the Study Area. The literature review included an evaluation of current and historical aerial photographs of the Study Area (Google Earth), regional and project-site-specific topographic maps, and climatic data.

Queries of the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (USFWS 2024a), CDFW California Natural Diversity Database (CNDDB; CDFW 2024a), California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Plants of California (2024), and the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) species directory (2024) were conducted to obtain comprehensive information regarding state and federally listed species, and other special-status species, with potential to occur in the Kernville, USGS 7.5-minute topographic quadrangle and the surrounding eight quadrangles (*Sirretta Peak, Johnsondale, Fairview, Weldon, Lake Isabella North, Alta Sierra, Tobias Peak, and Cannell Peak*). The results of database queries and lists of special-status species were reviewed by Rincon's regional biological experts for accuracy and completeness. The final list of special-status biological resources (species and sensitive natural communities) was evaluated based on documented occurrences in the nine-quadrangle search area and biologists' expert opinions on species known to occur in the region. The evaluation results and justification were compiled into a table (Appendix D).

The following resources were reviewed for additional information on existing conditions relating to biological resources within the Study Area:

- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2024a)
- USFWS Critical Habitat Portal (2024b)
- CDFW Biogeographic Information and Observation System (2024c)
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (2024d)
- CDFW Special Animals List (2024b)
- Cornell Lab of Ornithology's Ebird (2024)

The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009).

The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity project commissioned by the California Department of Transportation and CDFW (Spencer et al. 2010).

The results of the literature review reflect database and literature search results updated in December 2024.

2.2 Field Reconnaissance Survey

Rincon biologist Carolynn Honeycutt conducted a reconnaissance-level field survey of the Study Area on September 13, 2022. The survey began at 9:00 a.m. when the temperature was 70 degrees Fahrenheit (°F), and conditions were partly cloudy. A pedestrian survey of the Study Area was conducted to assess the habitat suitability for potential special-status flora and fauna and to document all plant and wildlife species observed.

The survey focused on documenting existing conditions and biological resources, evaluating the Study Area for potential to support special-status plants and wildlife species, sensitive vegetation communities, and potentially jurisdictional waters. Additionally, the biologist evaluated the general health and level of existing disturbance to vegetation communities. Results of the survey were used to identify suitable habitat for special-status species that may be present. See Section 1.3 for the categories of species included in the definition of “special-status species” for the purpose of this report.

Representative photographs were taken to document existing conditions, vegetation communities, species sign, or other notable biological resource observations. Study Area photographs are included in Appendix B. A list of plant and wildlife species observed during the field reconnaissance survey is included in Appendix C.

3 Existing Conditions

3.1 Physical Characteristics

Topography and Geography

The Study Area is located in the southern Sierra Nevada foothills geographic subregion of California (Baldwin et al. 2012), along the Kern River north of Isabella Lake. Land use near the Study Area consists of urban development surrounded by open space.

The climate in this region is influenced by the Sierra Nevada mountains, including dry summers and winters with snowfall averaging 1.7 inches. The average high temperature during summer months (June through September) is above 94 degrees Fahrenheit (°F), and the average low temperature in winter months (December through March) is 34°F. The average annual precipitation is 12.49 inches, with most rainfall occurring during November through March (Western Regional Climate Center 2024). Elevation within the Study Area is approximately 2,650 feet above mean sea level.

The Study Area is heavily disturbed with limited vegetation. The majority of the soils within the Study Area are heavily compacted for roadway access, and imported rock and broken concrete has been placed along the bank of the Kern River. Due to a precipitation event that brought less than 0.25 inch within 24 hours of the survey, the ground surface was damp and standing water was observed in depressions throughout the Study Area.

Watershed and Drainages

The Study Area falls within the Caldwell Creek-Kern River subwatershed (Hydrologic Unit Code: 12-180300010605) (United States Environmental Protection Agency [USEPA] 2024). The Study Area is located north of Isabella Lake. The USFWS National Wetland Inventory (NWI) and USGS National Hydrography Dataset (NHD) identify and map the north fork of the Kern River along the eastern side of the Study Area. The north fork of the Kern River begins approximately 70 miles upstream in the Kings-Kern Divide. The north fork of the Kern River flows through Kern Canyon, receiving water from snowmelt at higher elevations and from numerous streams, including Tyndall Creek, Kern-Kaweah River, Whitney Creek, Golden Trout Creek, Rattlesnake Creek, and Cannell Creek. The Kern River flows through Isabella Lake and down the Sierra Nevada foothills to the San Joaquin Valley where it terminates into the California Aqueduct. The north fork and the south fork of the Kern River are designated as a National Wild and Scenic River System under the Wild and Scenic Rivers Act upstream of the Study Area. The north fork carries this designation from the Tulare-Kern County line, approximately 3.5 miles upstream of the Study Area, to its headwaters in Sequoia National Park. The south fork carries this designation from the southern edge of the Domeland Wilderness, approximately 14 miles east of the Study Area, to its headwaters in the Inyo National Forest.

The NWI classifies the north fork of the Kern River as R3UBHx (Riverine [R], Upper Perennial [3], Unconsolidated Bottom [UB], and Permanently Flooded [H]) (USFWS 2024c). No wetlands are depicted on the NWI within the Study Area. The mapping presented in the NHD and NWI provide useful context but are not a completely accurate depiction of current conditions or extent of jurisdiction in the Study Area, particularly regarding alignment and flow regime of streams.

Soils

The USDA, NRCS Web Soil Survey identifies two soil types present in the Study Area: Southlake-Urban land complex, 0 to 15 percent slopes and Aquents-Aquolls-Riverwash complex, 0 to 5 percent slopes, flooded (Figure 3). Site-specific soil observations were consistent with those mapped by the Web Soil Survey. The description of each soil map unit is presented below (USDA, NRCS 2024a).

Southlake-Urban land soils are alluvium derived from mixed rocks on fan piedmonts and mountain valleys between elevations of 2,700 to 3,500 feet above mean sea level. The depth of the water table is approximately 60 inches below ground surface. The frequency of flooding and ponding is rare. The available water supply is low (about 5.1 inches). The soils are well-drained and are categorized as a medium-runoff class (USDA, NRCS 2024a). Southlake-Urban land complex is not included on the list of hydric soils (USDA, NRCS 2024b).

Aquents-Aquolls-Riverwash soils are alluvium derived from granite and form on channels, depressions, flood plains, and mountain valleys between elevations of 2,595 to 3,100 feet above mean sea level. The depth of the water table is approximately 60 inches below ground surface. The frequency of flooding and ponding is frequent. The available water supply is moderate (about 6.5 inches). The soils are very poorly drained and are categorized as a very high-runoff class (USDA, NRCS 2024a). Aquents-aquolls-riverwash complex is included on the list of hydric soils (USDA, NRCS 2024b).

3.2 Vegetation and Other Land Cover

Vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) but have been modified slightly to reflect existing Study Area conditions more accurately. *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) is still used for reference and historical perspective, although its classifications are no longer supported by the State of California and have been superseded by Sawyer et al. (2009). Plant species nomenclature and taxonomy used for this BRA follow the treatments in the second edition of *The Jepson Manual* (Baldwin et al. 2012). Six vegetation community and land cover types were identified within the Study Area (Figure 4), and Appendix C provides a full list of plant species observed during the field reconnaissance survey.

Fremont Cottonwood Forest and Woodland

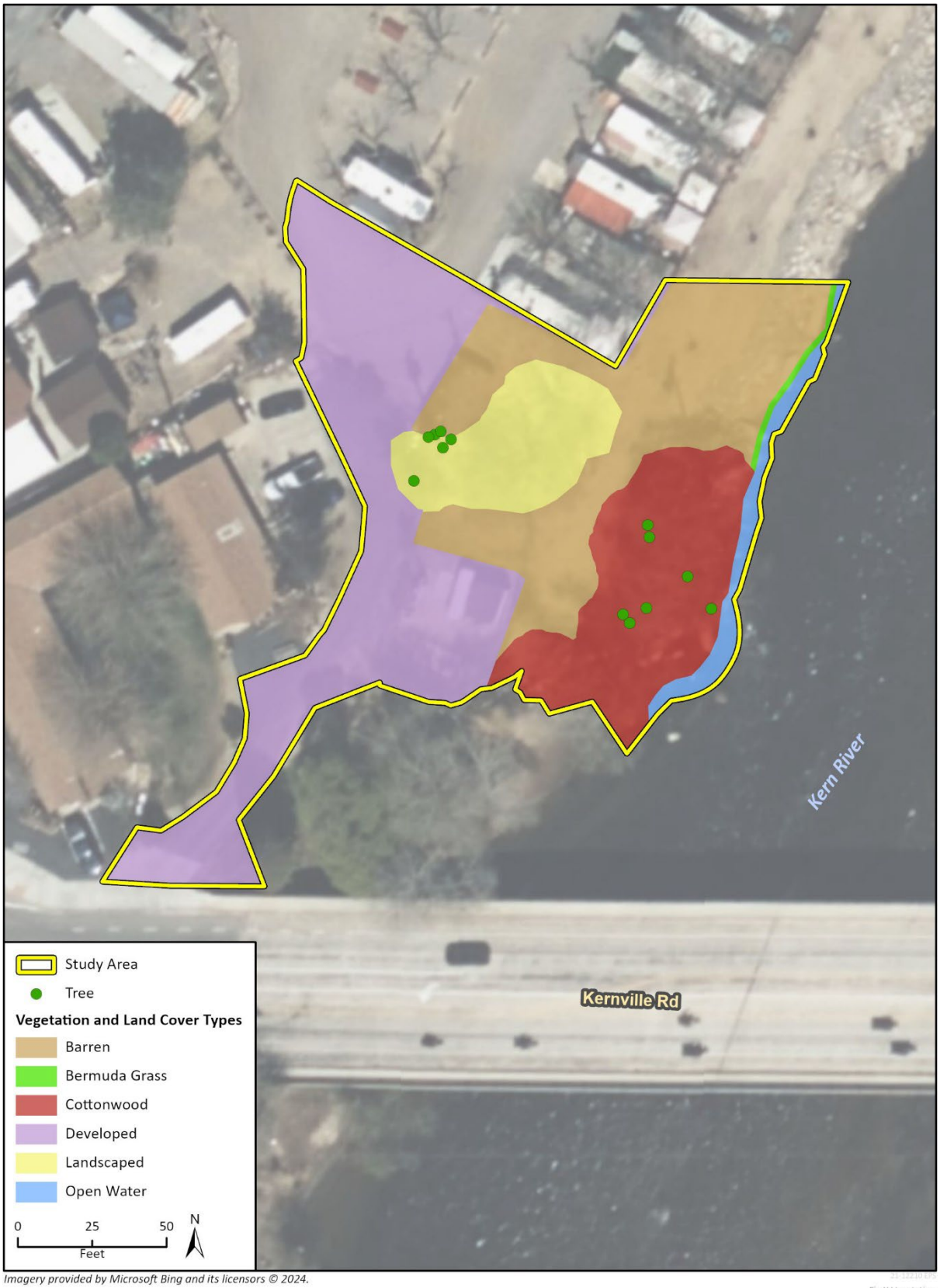
Fremont cottonwood forest and woodland is typically found on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, and in valleys with a dependable subsurface water supply that can vary considerably during the year, between sea level to 7,875 feet (0 to 2,400 meters) in elevation. Fremont cottonwood (*Populus fremontii,* facultative (FAC)) consists of at least 5 percent absolute cover in the tree layer and at least 30 percent relative cover with Goodding's willow (*Salix gooddingii,* Facultative Wetland (FACW)) and California sycamore (*Platanus racemosa,* FAC) co-dominant species. This vegetation community is ranked G4S3 and is classified as sensitive (CDFW 2024a).

Figure 3 Mapped Soil Units

Imagery provided by Microsoft Bing and its licensors © 2024.
Additional data provided by Natural Resource Conservation Service Soil Survey Geographic

Fig X Soils

Figure 4 Vegetation Communities and Land Cover Types



Imagery provided by Microsoft Bing and its licensors © 2024.

Fig X Vegetation

In the Study Area, this community is found along the upper bank of the northern fork of the Kern River. Mature Fremont cottonwoods are dominant in the tree layer, with mature Goodding's willows common as a subdominant species. The shrub layer is sparse, vegetated with mulefat (*Baccharis salicifolia,* FAC). The herbaceous layer is dominated by white sweetclover (*Melilotus albus,* facultative upland [FACU])*,* Virginia creeper *(Parthenocissus quinquefolia,* FAC)*,* and crabgrass (*Digitaria sanguinalis,* FACU). This habitat is heavily disturbed by development and consistent human presence, and several dead trees and limbs were observed.

Bermudagrass Turfs

Bermudagrass turfs (*Cynodon dactylon-Crypsis* spp.-*Paspalum* ssp. Herbaceous Semi-Natural Alliance) are typically found on disturbed levees, disturbed riverbanks and intermittently flooded plains and other disturbed soils in moist setting with flat to sloping topography between sea level and (0 to 1,250 meters). Bermuda grass (*Cynodon dactylon*, FACU) contributes at least 60 percent relative cover in the herbaceous layer, and the herbaceous layer is open to continuous. Bermuda turfs are not state or globally ranked and are not classified as a CDFW sensitive natural community (CDFW 2024).

Bermuda grass turfs are present in the northern portion of the Study Area along the Kern River riverbank. The turfs span approximately 2 feet in width between the surface water of the Kern River and the imported rock slope protection on the banks of the Kern River. Bermuda grass is overwhelmingly dominant in the herbaceous layer with emergent vegetation, including panicled bulrush (*Scirpus microcarpus*, OBL), sticktight (*Bidens frondosa*, FACW) and dotted smartweed (*Persicaria punctata*, OBL) in the Kern River.

Landscaped

Landscaped areas include those areas where ornamental trees have been installed adjacent to buildings and along the bank of the Kern River. Landscaped trees located on the bank of the Kern River were planted Oregon ash (*Fraxinus latifolia*, FACW) that were not associated with the Fremont cottonwood forest and woodland. Landscaped trees observed in the barren area devoid of vegetation were tree-of-heaven (*Ailanthus altissima*, FACU).

Developed

Developed lands are characterized by the presence of development, such as buildings, paved roadways, and imported materials, including rock and broken concrete. Developed lands are located on the eastern side of the Study Area and along the top of the Kern River riverbank.

Barren

Barren lands include areas of imported compacted soils that lack vegetation. These areas are continually maintained and located beyond the top of bank of the Kern River.

Water

Open water is characterized by the presence of surface water during the survey, a lack of vegetation and substrate. Within the Study Area, open water occurs in the Kern River.

3.3 General Wildlife

Wildlife species observed within the Study Area include common avian species such as American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), Anna's hummingbird (*Calypte anna*), and black phoebe (*Sayornis nigricans*). Only one mammalian and one reptilian species were observed on the Study Area: the California ground squirrel (*Otospermophilus beecheyi*) and western fence lizard (*Sceloporus occidentalis*). A complete list of wildlife species observed during the field reconnaissance survey is provided in Appendix C.

4 Regulated Biological Resources

This section discusses special-status species and regulated biological resources observed on the Study Area and evaluates the potential for the Study Area to support additional regulated biological resources.

4.1 Special-Status Species

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

- **No Potential.** Habitat on and adjacent to the Study Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, Study Area history, disturbance regime), and species would have been identifiable on the Study Area if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, Study Area history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Study Area is unsuitable or of very poor quality. The species is not likely to be found on the Study Area. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, Study Area history, disturbance regime) meeting the species requirements are present, and/or only some of the habitat on or adjacent to the Study Area is unsuitable. The species has a moderate probability of being found on the Study Area.
- **High Potential.** All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, Study Area history, disturbance regime) meeting the species requirements are present and/or most of the habitat on or adjacent to the Study Area is highly suitable. The species has a high probability of being found on the Study Area.
- **Present.** Species is observed on the Study Area or has been recorded (e.g., CNDDB, other reports) on the Study Area recently (within the last 5 years).

Rincon evaluated 70 special-status plant species and 41 special-status wildlife species for their potential to occur within the Study Area (Appendix D). A list of all wildlife and plant species observed during the field reconnaissance survey can be found in Appendix C.

Special-Status Plant Species

Rincon evaluated 70 special-status plant species for their potential to occur within the Study Area (Appendix D); 16 of these species have documented occurrences within 5 miles of the Study Area (CDFW 2024a, CNPS 2024). Results of the analysis determined 64 of the 70 special-status plant species were not expected to occur within the Study Area due to a lack of suitable habitat and/or because the Study Area is outside the elevation range of the species. The remaining six species that were determined to have low potential to occur within the Study Area are Kern Canyon clarkia

(*Clarkia xantiana ssp. parviflora*), Mojave tarplant (*Deinandra mohavensis*), rose-flowered larkspur (*Delphinium purpusii*), Koch's cord moss (*Entosthodon kochii*), southern Sierra monardella (*Monardella linoides ssp. anemonoides*), and beautiful threadplant (*Nemacladus bellus*). Details for these species are discussed below.

Kern Canyon Clarkia

The Kern Canyon clarkia is a CRPR 4.3 species. This species is an annual herb that inhabits chaparral, cismontane woodland, great basin scrub, and valley and foothill grassland habitats. It is often found in sandy soils and sometimes found along roadsides and in rocky soils. Three CNDDB occurrences for this species have been recorded within a 5-mile range of the project site. While the Study Area contains elements of suitable habitat (e.g., sandy/rocky soils), this species has a low potential to occur due to lack of suitable plant communities, prior development, and ongoing disturbance.

Mojave Tarplant

The Mojave tarplant is a State Candidate Endangered (SCE), CRPR 1B.3, and Bureau of Land Management (BLM) sensitive species. This species is an annual herb that inhabits chaparral, coastal scrub, and riparian scrub habitats. It can be found in low sand bars in river bed as well as riparian areas or in ephemeral grassy areas. One CNDDB occurrence was recorded near the Study Area. The species has a low potential to occur due to prior development, existing disturbances, and a prevalence of non-native, herbaceous species.

Rose-flowered Larkspur

The rose-flowered larkspur is a CRPR 1B.3 and BLM sensitive species. This species is a perennial herb that inhabits chaparral, cismontane woodland, and pinyon and juniper woodland habitats. It is found on shady, rocky slopes. There are multiple CNDDB occurrences of this species within a 5-mile range of the Study Area, and the species has a low potential to occur. While elements of potential habitat are present (e.g., shady, rocky slopes); the Study Area lacks the species' required plant communities, and prior development, existing disturbances, and a prevalence of non-native, herbaceous species reduce the potential for occurrence.

Koch's Cord Moss

The Koch's cord moss is a CRPR 1B.3 and BLM sensitive species. This a moss inhabits cismontane woodland and grows on the soil of riverbanks. There is no suitable cismontane woodland habitat present in the Study Area, but there is riverbank habitat present. However, the Study Area is disturbed by prior development, ongoing disturbance, and a prevalence of non-native, herbaceous species, and there are no CNDDB documented occurrences of the species within 5 miles. Therefore, this species has a low potential to occur in the riverbank habitat present in the Study Area.

Southern Sierra Monardella

The southern Sierra monardella is a CRPR 1B.3 species. This species is a perennial herb that inhabits chaparral, cismontane woodland, and lower montane coniferous forest habitats. Two CNDDB occurrences of the species were recorded within a 5-mile range near the Study Area, although the occurrences are historic (1904, 1941). This species has a low potential to occur in suitable habitat near the Study Area (cismontane woodland). However, prior development, ongoing disturbance, and a prevalence of non-native species reduce the potential for occurrence within the Study Area.

Beautiful Threadplant

The beautiful threadplant is a CRPR 1B.3 species. It inhabits cismontane woodland and Joshua tree woodland habitats and is found in granitic, gravelly, and sandy soils. No suitable cismontane woodland or Joshua tree woodland habitat is present in the Study Area. The most recent CNDDB documented occurrence of this species within 5 miles is over 60 years old. This species has a low potential to occur in the Study Area. While elements of potential habitat are present (e.g., granitic or gravelly soils), the Study Area is previously developed, subject to ongoing disturbance, and contains a prevalence on non-native, herbaceous vegetation.

Special-Status Wildlife Species

Rincon evaluated 41 special-status wildlife species for their potential to occur within the Study Area (Appendix D). Of these, 11 are not expected to occur and 30 have a low, moderate, or high potential to occur in the Study Area. Twenty-five of these species have a low potential to occur based on the habitat conditions. Of the five remaining special-status wildlife species, three have moderate potential to occur and two have a high potential to occur on the Study Area. Table 1 lists each of the species with a potential to occur in the Study Area, their status, and their potential to occur within the Study Area. More detailed discussion of these species is provided below.

Table 1 Special-Status Wildlife Species with Potential to Occur within the Study Area

Scientific Name	Common Name	Status	Potential to Occur
Invertebrates			
Bombus crotchii	Crotch's bumble bee	SCE	Moderate Potential
Danaus plexippus pop. 1	monarch – California overwintering population	FPT	Low Potential (transient)
Fish			
Onchorhynchus mykiss aguabonita	California golden trout	SSC	Low Potential
Onchorhynchus mykiss gilberti	Kern River rainbow trout	FC, SSC	High Potential
Reptiles			
Actinemys marmorata	northwestern pond turtle	FPT, SSC, BLM S	Low Potential
Anniella campi	southern Sierra legless lizard	SSC	Moderate Potential
Anniella spp.	California legless lizard	SSC	Low Potential
Amphibians			
Rana boylii pop. 5	foothill yellow-legged frog – south Sierra DPS	FE, SE, BLM S	Low Potential
Birds			
Accipiter atricapillus	American goshawk	SSC, BLM S	Low Potential
Accipiter cooperii	Cooper's hawk	WL	Low Potential
Accipiter gentilis	northern goshawk	SSC	Low Potential
Agelaius tricolor	tricolored blackbird	ST, SSC, BLM S	Low Potential
Aquila chrysaetos	golden eagle	BLM S, FP, WL	Low Potential
Asio otus	long-eared owl	SSC	Low Potential
Buteo swainsoni	Swainson's hawk	ST, BLM S	Low Potential
Circus hudsonius	northern harrier	SSC	Low Potential
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, SE	Low Potential

Scientific Name	Common Name	Status	Potential to Occur
Contopus cooperi	olive-sided flycatcher	SSC	Low Potential
Cypseloides niger	black swift	SSC	Low Potential
Empidonax traillii extimus	southwestern willow flycatcher	FE, SE	Low Potential
Gymnogyps californianus	California condor	FE, SE, FP	Low Potential
Haliaeetus leucocephalus	bald eagle	FD, SE, BLM S, FP	Low Potential
Icteria virens	yellow-breasted chat	SSC	Moderate Potential
Setophaga petechia	yellow warbler	SSC	High Potential
Strix occidentalis occidentalis	California spotted owl	BLM S, SSC	Low Potential
Mammals			
Antrozous pallidus	pallid bat	SSC, BLM S	Low Potential
Aplodontia rufa califórnica	Sierra Nevada mountain beaver	SSC	Low Potential
Corynorhinus townsendii	Townsend's big-eared bat	SSC, BLM S	Low Potential
Myotis yumanensis	Yuma myotis	BLM S	Low Potential
Taxidea taxus	American badger	SSC	Low Potential

FC = Federal Candidate; SSC = CDFW Species of Special Concern; SCE = State Candidate Endangered; FPT = Federal Proposed Threatened; BLM S = Bureau of Land Management Sensitive; FE = Federally Endangered; SE = State Endangered; WL = CDFW Watch List; FP = CDFW Fully Protected; ST = State Threatened; FT = Federally Threatened

Crotch's Bumble Bee

The Crotch's bumble bee (*Bombus crotchii*) is an SCE species that inhabits coastal California east to the Sierra-Cascade crest and south into Mexico. There is one CNDDB occurrence of the species within 1 mile of the Study Area noting collections of the species in 1952 and 1991. These collections were made in the general vicinity of Kernville, along the Kern River. Suitable food plant genera either have a low potential or no potential to occur in the Study Area. The project site is previously developed and subject to ongoing disturbance. However, the Fremont Cottonwood Forest and Woodland, Bermudagrass Turfs, and Landscaped vegetation communities and riparian fringe located along the Kern River within the Study Area could provide potentially suitable habitat for Crotch's bumble bee. This area includes potential nesting, foraging and overwintering habitat. Foraging habitat includes all flowering plants, including non-native and invasive species within the Study Area. Nesting habitat includes rodent holes/tunnels, rock piles, bunch grasses, and leaf piles. Overwintering habitat includes rodent holes/tunnels, bare soil, rock piles, bunch grasses, brush piles, leaf litter, pine needle duff layer, and mulch. Since the Study Area supports some of these habitat components, this species has a moderate potential to occur in the Study Area.

Monarch – California Overwintering Population

The monarch – California overwintering population (*Danaus Plexippus pop. 1*) is a Federal Proposed Threatened (FPT) species that inhabits winter roost sites extending along the coast of California from northern Mendocino to Baja California, Mexico. Roosts are located in wind-protected tree groves with nectar and water sources nearby. Suitable winter roosting habitat is not present in the Study Area. Suitable food plant genera are also not present in the Study Area. There are no CNDDB occurrences recorded for this species within a 5-mile range of the Study Area. The species has a low potential to occur in the Study Area as a transient during migration.

California Golden Trout

The California golden trout (*Onchorhynchus mykiss aguaabonita*) is a Species of Special Concern (SSC) in California. This species is native to Kern Plateau in wide, shallow and exposed streams with little riparian vegetation. It inhabits stream bottoms of sand, gravel, and some cobble. It tends to be present in waters that are clear and usually cold. There are no CNDDB occurrences recorded for this species within a 5-mile range of the Study Area. This species is only known to occur in the southern fork of the Kern River and in Lake Isabella, but not in the north fork where the project is located. Therefore, this species has a low potential to occur in the Study Area.

Kern River Rainbow Trout

The Kern River rainbow trout (*Onchorhynchus mykiss gilberti*) is a Federal Candidate (FC) species and a Species of SSC in California. This species is endemic to the Kern River, and multiple occurrences of this species recorded in the CNDDB overlap with the Study Area. Therefore, this species has a high potential to occur within the Kern River in the Study Area.

Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is an FPT, BLM sensitive, and SSC species. It is a thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation. This species requires basking sites and suitable upland habitat up to 0.5 kilometers from the water for egg-laying. These upland habitats must consist of sandy banks or grassy, open fields. There are no CNDDB occurrences for this species within a 5-mile range of the Study Area. Suitable aquatic habitat is present within the Study Area; however, the Study Area is previously developed and subject to ongoing disturbance which reduces the habitat suitability and potential for occurrence. Therefore, this species has a low potential to occur in the Study Area.

Southern Sierra Legless Lizard

The southern Sierra legless lizard (*Anniella campi*) is an SSC in California. This species typically occurs in moist, warm, loose soils with adequate plant cover (California Herps 2024), which can be found on and adjacent to the Study Area. Two CNDDB occurrences for this species were recorded in 2010 and 2016 within 5 miles of the Study Area. This species has a moderate potential to occur within the Study Area.

California Legless Lizard

The California legless lizard (*Anniella spp.*) is an SSC in California. This species is found in a variety of habitats and is generally found in moist, loose soil. This species prefers soils with a high moisture content. There is one CNDDB occurrence of this species from 1959 that was recorded approximately 2 miles from the Study Area. Given the historical nature of the record, this species has a low potential to occur in the Study Area.

Foothill Yellow-legged Frog – South Sierra DPS

The foothill yellow-legged frog – south Sierra DPS (*Rana boylii pop. 5)* is a Federally Endangered (FE), State Endangered (SE), SSC, and BLM sensitive species. It can be found in partially shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. This species requires at least some cobble-sized substrate for egg-laying. Four CNDDB occurrences were recorded in 1891, 1940, 1946, and 1963. There is potential habitat for the species adjacent to the Study Area; however, the recorded occurrences are historic and the Study Area is previously developed and subject to

ongoing disturbance, which reduces the suitability of habitat and potential for occurrence. Therefore, this species has a low potential to occur within the Study Area.

American Goshawk

The American goshawk (*Accipiter atricapillus*) is an SSC and BLM sensitive species. It is found within and in the vicinity of coniferous forests. This species usually nests on north slopes near water in red fir (*Abies magnifica*), lodgepole pine (*Pinus contorta*), Jeffrey pine (*Pinus jeffreyi*), and aspens (*Populus tremuloides*). No CNDDB occurrences of the species are present within a 5-mile range of the Study Area. Suitable habitat is present near the Study Area; however, no suitable nesting habitat is present in the Study Area, and prior development and human traffic disturbance reduces the suitability of habitat and the probability of occurrence. Therefore, this species has a low potential to occur (hunt) within the Study Area.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is a CDFW Watch List (WL) species. It inhabits woodland habitats, chiefly of open, interrupted, or marginal types. This species nests mainly in riparian growths of deciduous trees. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area. Suitable habitat is present near the Study Area; however, human and traffic disturbance lowers the habitat suitability and probability of occurrence. Therefore, this species has a low potential to occur (hunt) within the Study Area.

Northern Goshawk

The northern goshawk (*Accipiter gentilis*) is a California SSC. This species is found within and in the vicinity of coniferous forests. It uses old nests and usually nests on north slopes near water in red fir, lodgepole pine, Jeffrey pine, and aspens. No CNDDB occurrences of the species are present within a 5-mile range of the Study Area. Suitable habitat is present near the Study Area; however, no suitable nesting habitat is present in the Study Area and prior development and human traffic disturbance lowers the suitability of habitat and probability of occurrence. Therefore, this species has a low potential to occur (hunt) within the Study Area.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state threatened (ST), California SSC, and BLM sensitive species. This species is highly colonial and largely endemic to California. It requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area. Suitable foraging habitat is present near the Study Area. However, no suitable breeding habitat is present in the Study Area. Prior development and ongoing human disturbance lower the probability of species presence. Therefore, this species has a low potential to occur within the Study Area as a transient.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is a BLM sensitive, CDFW Fully Protected (FP), and a CDFW LW species. This species inhabits rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons and large trees in open areas provide nesting habitat for the golden eagle. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area. Suitable habitat for hunting is present near the Study Area; however no suitable nesting habitat is present.

Human and traffic disturbance lower the probability of the species presence. Therefore, this species has a low potential to occur (hunt) in the Study Area and surrounding habitats.

Long-eared Owl

The long-eared owl (*Asio otus*) is a California SSC species that lives in riparian bottomlands in willows and cottonwoods as well as belts of live oak paralleling stream courses. This species requires adjacent open land with mice and the presence of old nests for breeding. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area. Suitable habitat is present near the Study Area; however, human and traffic disturbance lower the suitability of habitat and probability of species presence. This species has a low potential to occur in the Study Area and surrounding habitats.

Swainson's Hawk

The Swainson's hawk (*Bueo swainsoni*) is a ST and BLM sensitive species. This species breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. It requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. There is one CNDDB documented occurrence of the species from 1992 recorded approximately 3 miles from the Study Area. Prior development and existing disturbances within the Study Area reduce the suitability of habitat and potential for occurrence. Therefore, this species has a low potential to occur in the Study Area and surrounding habitats.

Northern Harrier

The northern harrier (*Circus hudsonius*) is a California SSC species that inhabits coastal salt and freshwater marshes and nests and forages in grasslands. It nests on the ground in shrubby vegetation, usually at the edge of the marsh. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area and no suitable nesting habitat is present in the Study Area. This species has a low potential to hunt in habitats near the Study Area.

Western Yellow-billed Cuckoo

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is an FT and SE species that nests in riparian jungles of willow often mixed with cottonwoods with understories of blackberry (*Rubus subg. Rubus*), nettles (*Urtica dioica*), or wild grape (*Vitis vinifera*). No CNDDB occurrences for this species are present within a 5-mile range of the Study Area. Some suitable habitat occurs along the forks of the Kern River; however, the Study Area lacks the riparian jungle habitat the species requires for nesting. As a result, this species has a low potential to occur as a transient in the Study Area and surrounding habitat.

Olive-sided Flycatcher

The olive-sided flycatcher (*Contopus cooperi*) is a California SSC. Nesting habitats for this species are mixed conifer, montane hardwood-conifer, Douglas fir (*Pseudotsuga menziesii*), redwood (*Sequoia sempervirens*), red fir, and lodgepole pine. This species inhabits montane conifer forests where tall trees overlook canyons, meadows, lakes, or other open terrain. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area and no suitable nesting habitat is present in the Study Area. This species has a low potential to occur as a transient in the Study Area and surrounding habitats.

Black Swift

The black swift (*Cypseloides niger*) is a California SSC. It is found along the coastal belt of Santa Cruz and Monterey counties, central and southern Sierra Nevada, and the San Bernardino and San Jacinto mountains. This species breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea bluffs. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area and no suitable nesting habitat is present in the Study Area. Human and traffic disturbance lower the probability of species presence. This species has a low potential to forage over the Study Area and surrounding habitats.

Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) is an FE and SE species that inhabits riparian woodlands in southern California. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area. Some suitable habitat is present within a 5-mile range of the Study Area; however, the Study Area lacks the dense and vertically complex riparian habitat required by the species. Human and traffic disturbance also lower the probability of species presence. This species has a low potential to occur in the Study Area as a transient.

California Condor

The California condor (*Gymnogyps californianus*) is an FE, SE, and CDFW FP species. This species requires vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Nesting habitat is provided by deep canyons containing clefts in the rocky walls. This species forages up to 100 miles from where it roosts and/or nests. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area and no suitable nesting habitat is present in the Study Area. Human and traffic disturbance also lower probability of the species presence. This species has a low potential to fly over the Study Area and surrounding habitats.

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is a Federally Delisted (FD), SE, BLM sensitive, and CDFW FP species. This species inhabits ocean shores, lake margins, and rivers for both nesting and wintering. It nests in large, old-growth, or dominant live trees with open branches usually within 1 mile of water. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area. Suitable hunting habitat present in the Study Area; however, human and traffic disturbance lower probability of the species presence. This species has a low potential to occur (hunt) in the Study Area and surrounding areas.

Yellow-Breasted Chat

The yellow-breasted chat (Icteria virens) is a California SSC. There are no CNDDB records of this species within 5 miles of the Study Area. However, there are multiple observations of this species within 5 miles of the Study Area on eBird (2024). Suitable habitat for foraging and nesting occurs in the riparian corridor of the Kern River within and adjacent to the Study Area. As such, this species has a moderate potential to occur within the Study Area.

Yellow Warbler

The yellow warbler (*Setophaga petechia*) is a California SSC. There are no CNDDB records of this species within 5 miles of the Study Area. However, there are multiple observations of the species within 1,000 feet of the Study Area on eBird (2024). Suitable habitat, both foraging and nesting

habitat, occurs in the riparian corridor of the Kern River within and adjacent to the Study Area. As such, this species has a high potential to occur within the Study Area.

California Spotted Owl

The California spotted owl (*Strix occidentalis occidentalis*) is a BLM sensitive and California SSC. It lives in mixed conifer forests, often with an understory of black oaks and other deciduous hardwoods. This species is most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water. No suitable nesting habitat is present in the Study Area and no CNDDB occurrences for the species are present within a 5-mile range of the study area. This species has a low potential to occur within the Study Area and surrounding habitats as a transient.

Pallid Bat

The pallid bat (*Antrozous pallidus*i) is a California SSC and BLM sensitive species. This species is found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. It is most common in open, dry habitats with rocky areas for roosting. This species roosts in a variety of places including crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees. This species is very sensitive to the disturbance of roosting sites. Some suitable roosting habitat present within the Study Area, however, human and traffic disturbance lower probability of species presence. No CNDDB occurrences for the species are present within a 5-mile range. Therefore, this species has a low potential to forage over the Study Area.

Sierra Nevada Mountain Beaver

The Sierra Nevada mountain beaver (*Aplodontia rufa californica*) is a California SSC. This species inhabits dense growth of small, deciduous trees and shrubs with wet soil and requires a dense understory for food and cover and soft soil for burrowing. Suitable habitat is present within 5 miles of the Study Area and adjacent habitat. One historic CNDDB occurrence from 1979 occurs near the Study Area. Prior development and existing disturbances within the Study Area reduce the suitability of habitat and the potential for occurrence. Therefore, this species has a low potential to occur.

Townsend's Big-eared Bat

The Townsend's big-eared bat (*Corynorhinus townsendii*) is a California SSC and BLM sensitive species. This species occurs throughout California in a wide variety of habitats. It is most common in mesic sites, typically coniferous or deciduous forests. This species roosts in the open, ceilings in caves, lava tubes, bridges, and buildings and is extremely sensitive to human disturbance. Some suitable roosting habitat present within the Study Area; however, human and traffic disturbance lower probability of species presence. No CNDDB occurrences for the species are present within a 5-mile range. Therefore, this species has a low potential to forage over the Study Area and surrounding habitats.

Yuma Myotis

The Yuma myotis (*Myotis yumanensis*) is a BLM sensitive species that occurs in a variety of lowland and upland habitats including desert scrub, riparian, and woodlands and forests. Its distribution is closely tied to bodies of water. This species roosts in a variety of areas including caves, cliffs, mines, crevices in live trees, and buildings and other man-made structures. Suitable riparian habitat for foraging is present in the Study Area; however, human and traffic disturbance lower probability of

the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area. This species has a low potential to forage over the Study Area and surrounding habitats.

American Badger

The American badger (*Taxidea taxus*) is a California SSC. This species is most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soils. It needs sufficient food, friable soils, and open ground. No CNDDB occurrences have been recorded near the Study Area. There is suitable burrowing and foraging habitat present within 5 miles a of the Study Area; however, no sign of the species were observed during the reconnaissance survey and prior development and existing disturbances reduce the potential for occurrence. This species has a low potential to occur as a transient in the Study Area and surrounding habitats.

Other Protected Species

Migratory birds protected under the MBTA, and nesting birds and raptors protected under CFGC Section 3503, have the potential to nest in the Study Area. Nesting habitat for a variety of bird species exists in the riparian corridor and could include sycamore, ash, willow, other vegetation, human-made structures (e.g., bridges), and the ground surface. Suitable nesting habitat for multiple raptor species occurs within trees throughout the Study Area.

4.2 Sensitive Natural Communities and Critical Habitat

Four sensitive natural communities are known to occur in the 9-quadrangle search radius. These include Big Tree Forest, Central Valley Drainage Hardhead/Squawfish Stream, Great Valley Cottonwood, and Southern Interior Cypress. Great Valley Cottonwood is synonymous with the Fremont Cottonwood alliance observed within the Study Area. Therefore, the Great Valley Cottonwood community found within the Study Area is classified as a sensitive natural community. The Study Area does not contain federally designated critical habitat for any species.

4.3 Jurisdictional Waters and Wetlands

The north fork of the Kern River flows along and partially through the Study Area. The Kern River is a perennial river with a permanent surface flow and is therefore classified as waters of the U.S. and state under CWA jurisdiction, regulated by the United States Army Corps of Engineers (USACE) and SWRCB pursuant to Section 404 and 401, respectively. The river is also likely regulated by the SWRCB under the Porter-Cologne Water Quality Control Act. In addition, this river meets the definition of a CDFW-jurisdictional stream and is subject to CDFW jurisdiction pursuant to CFGC 1600 et seq. Additional details are provided in the Aquatic Resources Delineation report prepared for the proposed project (Rincon 2024).

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration

corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity project commissioned by the California Department of Transportation and CDFW identifies "Natural Landscape Blocks" which support native biodiversity and the "Essential Connectivity Areas" which link them (Spencer et al. 2010).

The riparian corridor within the Study Area could serve as a local wildlife movement corridor, particularly for disturbance-tolerant species, such as racoons, skunks, and coyotes. The Kern River also serves as a migration corridor for California golden trout (*Oncorhynchus aguabonita*) and Kern River rainbow trout. The Study Area occurs approximately 600 feet west of the nearest mapped Natural Landscape Block, and the nearest mapped Essential Connectivity Area is approximately 7 miles south of the Study Area (Spencer et al. 2010).

4.5 Resources Protected by Local Policies and Ordinances

The Study Area is within unincorporated Kern County and is therefore subject to the Kern County *Code of Ordinances* (updated March 2024) and Kern County *General Plan* (2009). These include policies relating to protected trees, protecting floodplain and riparian habitats, as well as regulating water and light pollution. Kern County *General Plan* Provision 1.10.10 restricts the removal of oak species, however, none were observed in the Study Area. In addition, the Kern County Code of Ordinances prohibits the removal of native tree species within the Kern River Corridor Combining District as defined in the Kern River Plan Element of the Metropolitan Bakersfield General Plan. The Study location is approximately 20 miles northeast of the Kern River Corridor as defined in the Kern County *Code of Ordinances* and thus proposed project activities are not subject to this regulation. Specific policies from these documents that pertain to sensitive biological resources within the Study Area can be found in Appendix A.

4.6 Habitat Conservation Plans

The Study Area does not occur within the boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5 Impact Analysis and Mitigation Measures

The analysis in this chapter is focused on impacts resulting from project construction activities, as project operations and maintenance (O&M) are expected to be similar to existing O&M activities. Therefore, there would be no impacts to protected biological resources in comparison to baseline operations and maintenance activities.

5.1 Special-Status Species

The proposed project would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.*

Special-Status Plant Species

No special-status plant species have a moderate or high potential to occur within the Study Area. Six special-status plant species have a low potential to occur within the Study Area. The species with low potential to occur are associated with chaparral, cismontane woodlands, and riparian scrub habitat present in the areas surrounding the Study Area. Given the minimal size of the impact area, surrounding development, ongoing disturbance, prevalence of non-native, herbaceous vegetation, and the low potential for occurrence, potential project impacts would not likely reduce the populations of special-status plant species below self-sustaining levels. Therefore, impacts to Kern Canyon clarkia, Mojave tarplant, rose-flowered larkspur, Koch's cord moss, and southern Sierra monardella are not expected and no mitigation measures are recommended.

Special-Status Wildlife Species

Five special-status wildlife species have a moderate or high potential to occur within the Study Area. Crotch's bumble bee, southern Sierra legless lizard and yellow-breasted chat have moderate potential to occur. The Kern River rainbow trout and yellow warbler have a high potential to occur. Potential project impacts and recommended avoidance and minimization measures to reduce impacts to these species are provided below.

Twenty-five special-status wildlife species have a low potential to occur within the Study Area based upon known ranges, habitat preferences for the species, and species occurrence records from the CNDDB. Species with a low potential to occur include monarch – California overwintering population, California golden trout, northwestern pond turtle, California legless lizard, foothill yellow-legged frog – southern Sierra DPS, American goshawk, Cooper's hawk, northern goshawk, tricolored blackbird, golden eagle, long-eared owl, Swainson's hawk, northern harrier, western yellow-billed cuckoo, olive-sided flycatcher, black swift, southwestern willow flycatcher, California condor, bald eagle, California spotted owl, pallid bat, Sierra Nevada mountain beaver, Townsend's big-eared bat, Yuma myotis, and American badger. As described in Section 4.1, the Study Area lacks essential habitat elements needed to support each of these species and is subject to prior development and ongoing disturbances that reduce the potential for occurrence. Therefore, potential impacts to these species are not expected and no mitigation measures are recommended.

In addition, nesting birds protected under the MBTA and CFGC have potential to occur within the Study Area during the nesting season (typically February through August). Potential effects of project implementation on special-status wildlife species with potential to occur within the Study Area and nesting birds are described below. Recommended mitigation measures for reducing potential effects to less-than-significant levels are also provided.

Crotch's Bumble Bee

Project construction activities such as grading and vegetation removal/disturbance could result in temporary and permanent indirect impacts to foraging habitat, including removal of flowering plants within the Study Area. Ground disturbing activities could result in temporary and permanent indirect impacts to nesting habitat and overwintering habitat through the destruction of nests. Ground disturbing activities could potentially result in direct impacts to the species via injury or mortality of individuals. Impacts to this species from construction activities would be reduced to a less-than-significant level with the implementation of Mitigation Measures BIO-4, BIO-5, and BIO-6. Further, the removal of concrete debris and restoration of this area to vegetated habitat would be beneficial to this species.

Kern River Rainbow Trout

The Study Area contains suitable habitat for Kern River rainbow trout and the species is known to occur in the north fork of the Kern River. This species breeds in shallower, slower-moving water than is found within the Study Area. However, breeding habitat exists adjacent to the Study Area, and the Study Area provides foraging habitat and access to up and downstream sections of the river. Kern River rainbow trout may be directly affected by construction activities if individuals are present in the portion of the river that would be dewatered. Temporary impacts to water quality may also occur during the installation of the coffer dam and groundwater dewatering, which could result in impacts on this species. Water quality impacts during installation of the cofferdam would be short-term and installation would comply with the requirements of the Dewatering Plan. While dewatered groundwater would be discharged to the Kern River, this would be carried out in compliance with the requirements of Dewatering Plan and the Waste Discharge Requirements for Limited Threat Discharges to Surface Water (Order R5-2022-0006-02), which would ensure dewatered groundwater is adequately treated to minimize water pollutants prior to disposal. Impacts to this species from construction activities would be reduced to a less-than-significant level with the implementation of Mitigation Measures BIO-1, BIO-4, and BIO-5.

Southern Sierra Legless Lizard

The Study Area contains suitable habitat for the southern Sierra Legless Lizard. This species is most likely to be found in areas with sufficient moist leaf litter or other ground cover to support their habitat requirements. The species may be directly affected (injury or mortality) by the construction activities in their habitat if individuals are present in the work area during construction. Impacts to this species from construction activities would be reduced to a less-than-significant level with the implementation of Mitigation Measures BIO-2, BIO-4, and BIO-5.

Special-Status Bird Species and Nesting Birds

The Study Area contains suitable nesting habitat for several native and special-status bird species, including yellow-breasted chat and yellow warbler. In general, avian species can typically avoid direct impacts from construction activity. However, active nests of special-status birds and/or

raptors could be adversely affected by construction activity through removal of 13 trees to accommodate the new water intake system. Construction activity around active nests near construction could also result in nest abandonment because of noise, vibrations, or human activity. Nest destruction or abandonment of active special-status species nests could be considered a significant impact under CEQA. Destruction or abandonment of native bird nests would violate the CFGC and MBTA. Implementation of Mitigation Measures BIO-3, BIO-4, and BIO-5 would reduce potential impacts to special-status nesting birds to a less-than-significant level and help assure compliance with CFGC section 3503 and the MBTA for protected native birds.

Recommended Mitigation Measures

BIO-1 AQUATIC SPECIES PRE-CONSTRUCTION SURVEY, RELOCATION, AND SEASONAL WORK WINDOW RESTRICTIONS

Project activities in the Kern River are proposed to occur outside of the trout breeding season and when water levels are at their lowest—July 1 through October 31. However, project activities may occur when water levels are higher, increasing the potential for Kern River rainbow trout to be present. To minimize effects to Kern River rainbow trout, Cal Water or its contractor(s) or representative(s) should prepare and implement a fish relocation plan detailing the process of relocating both native and non-native fish. Additionally, Cal Water or its contractor(s) or representatives(s) should also contract a qualified fisheries biologist to oversee the aquatic species relocation effort.

Prior to in-water construction, block nets should be erected around the project site upstream and downstream of the temporary coffer dam location. Block nets should remain in place until in-river work is complete or may be removed after the cofferdam has been successfully installed and dewatering has been achieved. After block net installation, Kern River rainbow trout should be removed from the block-netted area by seine and dipnets, if found. After placement of the temporary cofferdam, dewatering within the coffer dams should be monitored by a qualified fisheries biologist familiar with Kern River rainbow trout to rescue any remaining fish or other aquatic species, if present. Dewatering pumps should be screened per screening criteria determined during consultation with regulatory agencies to prevent entrainment of small fish.

Captured Kern River rainbow trout should be placed in aerated 5-gallon buckets with water taken directly from the Kern River at the capture site and held no more than 20 minutes before relocation to suitable habitat downstream of the block nets to ensure adequate dissolved oxygen concentrations and water temperatures are maintained, and that stress and mortalities are avoided. Smaller fish should be placed in separate aerated buckets to avoid predation by larger fish. Buckets should also be placed out of direct sunlight to avoid increased water temperatures. If water temperatures are above approximately 20°C at the time of rescue, aerated coolers instead of aerated buckets may be used to better regulate holding temperatures.

Captured non-native fishes should be removed from the work site and relocated back to the river. Other aquatic or semi-aquatic species should be captured from the impound and relocated outside of the block nets in species-specific suitable habitat.

BIO-2 SOUTHERN SIERRA LEGLESS LIZARD PRE-CONSTRUCTION SURVEYS

Pre-construction clearance surveys for southern Sierra legless lizard should be conducted within 14 days prior to the start of construction (including staging and mobilization) in areas of suitable habitat. Individuals found in the Study Area should be relocated from the Study Area by a biologist

with the appropriate scientific collecting permit to a location with suitable habitat at least 50 feet away from the work area.

BIO-3 NESTING BIRD PRE-CONSTRUCTION SURVEYS

To avoid disturbance of nesting and special-status birds, or migratory species protected by Sections 3503, 3503.5, and 3513 of the CFGC, activities related to project construction, including but not limited to vegetation and/or tree removal, should occur outside of the bird breeding season (February 1 through August 31). If ground disturbance, vegetation removal, or heavy equipment work must begin in the breeding season, then a pre-construction nesting bird survey should be conducted no more than 7 days prior to the initiation of construction activities. The nesting bird pre-construction survey should be conducted with binoculars in the disturbance footprint and a 250-foot buffer for passerines and a 500-foot buffer for raptors and listed avian species. The survey should be conducted by a biologist familiar with the identification of avian species known to occur in the region. An additional survey should be conducted following any lapse in construction activity of seven or more days during the bird breeding season.

If nests are found, an avoidance buffer of 250 feet for passerines and 500 feet for raptors and listed avian species should be established by the qualified biologist. The buffer should be established to ensure nesting activity is not disturbed by construction activity and determined by the qualified biologist based on the species' known tolerances, the proposed work activity, and existing disturbances associated with land uses outside of the Study Area. The buffer(s) should be demarcated by the biologist and the boundary marked with bright construction fencing, flagging, construction lathe, or other means. All construction personnel should be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No work will be allowed within these avoidance buffers until the avian biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest, or the nest has become otherwise inactive. Encroachment into the buffer should occur only at the discretion of the qualified biologist and with monitoring of the active nest to ensure construction activities are not disrupting nesting behavior.

BIO-4 WORKER ENVIRONMENTAL AWARENESS PROGRAM (WEAP)

Prior to initiation of construction activities (including staging and mobilization) Cal Water or its contractor(s) or representative(s) should arrange for all personnel associated with project construction to attend WEAP training, conducted by an approved biologist, to aid workers in recognizing special-status resources that may occur in the construction area. The specifics of this program should include identification of special-status species with moderate and high potential to occur, sensitive habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information should also be prepared for distribution to all contractors, their employers, and other personnel involved with construction. If new construction personnel are added to the project, the crew foreman should ensure the new personnel receive the WEAP training before starting work. All employees should sign a form provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form should be submitted to Cal Water, if required, to document compliance.

BIO-5 BIOLOGICAL RESOURCES AVOIDANCE AND MINIMIZATION

The following measures should be implemented to avoid and/or minimize impacts to special-status species and regulated biological resources.

- Ground disturbance should be limited to the minimum necessary to complete the project. The limits of disturbance for each construction phase should be flagged. Areas of special biological concern within or adjacent to the limits of disturbance should have highly visible orange construction fencing installed between said area and the limits of disturbance.
- A qualified biological monitor should be present during initial ground disturbing/vegetation-clearing activities within the work area to identify and relocate special-status species that may have been missed during pre-construction surveys or repopulated and confirm the biological resources avoidance and minimization measures are effectively implemented. The biologist performing relocations of special-status species must have the appropriate handling permits.
- No endangered/threatened species should be captured/handled, relocated, harmed, or harassed without written authorization from the CDFW and/or USFWS.
- At the end of each workday, excavations should be secured with a cover or ramp provided to prevent wildlife entrapment.
- All trenches, pipes, culverts, or similar structures should be inspected for animals prior to burying, capping, moving, or filling.

BIO-6 CROTCH'S BUMBLE BEE AVOIDANCE, MINIMIZATION, AND COMPENSATION MEASURES

- Prior to construction activities or vegetation disturbance, a qualified biologist should conduct a habitat assessment for Crotch's bumble bee within 50 feet of the project work area (survey area). The habitat assessment should identify potential foraging, nesting, and/or overwintering resources. If suitable habitat is present, those areas should be avoided to the extent feasible.
- If suitable habitat is unavoidable, prior to the start of initial ground-disturbing activities (including, but not limited to, site preparation, staging and mobilization, vegetation clearance/mowing/trimming, grading, and excavation), a qualified biologist should conduct a protocol-level presence/absence survey for Crotch's bumble bee in areas of suitable habitat during the peak active period for Crotch's bumble bee (highest detection probability). The peak active period for Crotch's bumble bee in the project area is anticipated to be April through June given the expected desiccation of Crotch's bumble bee floral resources within the project area by mid-summer, though this timing could depend on annual climatic factors. Survey methodology shall be based on Section 4.1.1 of CDFW's 2023 Survey Considerations for CESA Candidate Bumble Bee Species, or the most current CDFW guidance in effect at the time.
- If Crotch's bumble bee is present, the qualified biologist should identify the location of nests in in the survey area, to the extent feasible. If nests are identified, the qualified biologist should determine the need to establish a no-disturbance buffer around the nest, where feasible, to reduce the risk of disturbance or accidental take. The buffer should provide at least 50 feet (15 meters) of clearance around active nest entrances. If project component activities may result in disturbance or potential take, the qualified biologist, in coordination with CDFW, should expand the buffer zone as necessary to prevent disturbance or take. If establishment of a no-disturbance buffer is feasible, construction activities should not occur within the buffer until a qualified biologist determines the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days, indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest

has been determined to be inactive, construction activities within the no-disturbance buffer(s) should be allowed to resume. Otherwise, the no-disturbance buffer should be maintained for the duration of project component construction activities in each work area and should be removed only after the conclusion of all grading, clearing, and construction activities at each construction site.

- If Crotch's bumble bee is determined to be present on the project site, floral resources associated with the species that will be removed or damaged by project construction activities in the areas of the project site where Crotch's bumble bee is detected and documented, should be replaced at a minimum 1:1 ratio.

5.2 Sensitive Natural Communities and Critical Habitat

The proposed project would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.

The Fremont Cottonwood alliance observed on the Study Area is synonymous with Great Valley Cottonwood and is considered a sensitive natural community. Implementation of Mitigation Measure BIO-6 would reduce potential impacts to 0.039 acre of this sensitive plant community that overlaps with areas of proposed temporary and permanent impacts to a less-than-significant level.

BIO-7 SENSITIVE NATURAL COMMUNITY OFFSETS AND WATERS/STREAMBED MITIGATION PLAN

Impacts to Fremont cottonwood forest and woodland habitat and jurisdictional waters/streambed should be offset through on-site restoration, in-lieu fee (ILF) payment, or purchase of credits by Cal Water at an agency-approved (USACE, SWRCB, and/or CDFW) mitigation bank for waters/streambed at a minimum 1:1 ratio. Upon final project design, a qualified biologist should be retained by Cal Water to determine the final impacts to riparian habitat and waters/streambed and the subsequent amount of acreage needed for restoration and/or enhancement for the project. The biologist should develop a Habitat Restoration/Enhancement Plan that includes, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)
- Goal(s) of the compensatory mitigation project (i.e., the type/types and area/areas of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type/types to be established, restored, enhanced, and/or preserved)
- Description of the proposed compensatory mitigation-site (i.e., location and size, ownership status, existing functions and values of the compensatory mitigation site)
- Implementation plan for the compensatory mitigation site (the plan will include rationale for expecting implementation success, responsible parties, schedule, Study Area preparation, planting plan, including plant species to be used, container sizes, and seeding rates)
- Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (the plan will include activities, responsible parties, and schedule)

- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year; the plan will include performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports
- Success criteria based on the goals and measurable objectives for percent cover of native species by vegetation type based on existing site conditions
- An adaptive management program and remedial measures to address unanticipated issues with the restoration effort
- Notification of completion of compensatory mitigation and agency confirmation
- Contingency measures (e.g., initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

If on-site restoration is not feasible, the project can compensate for impacts through an ILF program or purchase of mitigation credits as an alternative.

5.3 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

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

The Study Area contains approximately 0.02 acre (163 linear feet) of non-wetland waters of the U.S. and state, including natural streambed. No wetland waters of the U.S. or state were documented within the Study Area. The Kern River has defined indicators of an ordinary high-water mark (OHWM), direct hydrological connectivity to an intrastate water and is perennial in nature. Therefore, it is subject to regulation by the USACE and SWRCB. Additionally, the Kern River, as well as the Fremont cottonwood forest covering approximately 0.14 acre (178 linear feet), were delineated as CDFW jurisdictional streambed and riparian habitat under CFGC 1600 et seq. and are subject to CDFW regulation. The project has the potential to temporarily impact up to 0.006 acre of non-wetland waters of the U.S. and 0.026 acre of CDFW streambed and potentially permanently impact up to 0.011 acre of CDFW streambed. Implementation of Mitigation Measure BIO-6 would reduce potential impacts to jurisdictional waters to a less-than-significant level.

Impacts to the bed, bank or channel of the Kern River, or deposition of pollutants or material into the river, would require coordination and regulatory permit acquisition from the USACE, SWRCB and CDFW. Impact acreages will be refined during coordination with the regulatory agencies.

5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

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

The proposed project is not expected to hinder wildlife movement in the region, considering that the project footprint is minimal, and the section of channel to be dewatered does not cross the Kern

River. Therefore, the proposed project would not interfere substantially with wildlife movement and no further action is recommended.

5.5 Resources Protected by Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

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

The Study Area occurs within a location subject to the policies of the Kern County General Plan and Kern County Code of Ordinances. The proposed project is located outside of the Kern River Corridor and does not contain oak species protected by County ordinance. With implementation of Mitigation Measures BIO-1 through BIO-6, the proposed project is not expected to conflict with the General Plan or Code of Ordinances.

5.6 Habitat Conservation Plans

The proposed project would have a significant effect on biological resources if it would:

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

The Study Area does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan areas. Therefore, the proposed project would not conflict with the provisions of any such plans and no further actions are recommended.

6 Limitations, Assumptions, and Use Reliance

This BRA has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the Study Area. In particular, mobile wildlife species could occupy the Study Area on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from Study Area reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or project-site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Study Area include the following:

- U.S. Army Corps of Engineers ([USACE] wetlands and other waters of the United States [U.S.])
- U.S. Fish and Wildlife Service ([USFWS] federally listed species and migratory birds)
- National Marine Fisheries Service ([NMFS] marine wildlife and anadromous fishes)
- Central Valley Regional Water Quality Control Board (waters of the state)
- California Department Fish and Wildlife ([CDFW] riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources)
- County of Kern

United States Army Corps of Engineers

The USACE is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the law was significantly reorganized and expanded in 1972. "Clean Water Act" became the law's common name with amendments in 1972.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites." Section 404 requires that a permit be issued before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from regulation under Section 404 (e.g., certain farming and forestry activities).

Waters of the U.S.

The USACE and US Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges which have invalidated the updated regulations. As a result of the Supreme Court ruling in *Sackett v. Environmental Protection Agency*, EPA and USACE issued a final rule that amends the "Revised Definition of 'Waters of the United States'" to conform key aspects of the regulatory text to the U.S. Supreme Court's decision (88 Federal Register 61964–61969, September 8, 2023).

Under the "Revised Definition of 'Waters of the United States'; Conforming" rule, the term "waters of the United States" is defined as follows (33 CFR 328.3[a]):

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

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

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

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

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

In addition, the amended regulations include eight types of excluded waters (33 CFR 328.3[b]) which are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present at a site for USACE to classify the site as a wetland (Environmental Laboratory 1987).

Limitations on Jurisdiction based on Sackett v. USEPA Supreme Court Decision

On May 25, 2023, the Supreme Court issued its decision on the petition from the Sacketts, a family in Idaho that was subject to a compliance order from the USEPA for backfilling their lot near Priest Lake, which the USEPA claimed contained federally regulated wetlands. The wetlands in question were adjacent to a ditch that fed a creek that ultimately drained into Priest Lake, a navigable water body. The USEPA asserted that the Sacketts had violated the law by filling the wetlands on their property without a permit. The Court’s decision addressed controversy over whether, and under what conditions, the CWA reaches navigable waters’ tributaries or adjacent wetlands. The Supreme Court’s decision in Sackett provides definitive guidance to the agencies in determining the limits of their Clean Water Act authority. Major tenets of the decision have been incorporated into the agencies’ current regulations through the September 2023 Conforming Rule.

The Court decided:

- “Adjacent wetlands” are WOTUS only if there is a continuous surface connection between the wetland and a navigable or relatively permanent water body, such that it is difficult to determine the boundary between the wetland and the water body. The opinion notes that “temporary interruptions to surface connection may sometimes occur because of phenomena like low tides or dry spells.” The agencies addressed this element by defining the term “adjacent” to mean “having a continuous surface connection” in the Conforming Rule.
- The Significant Nexus Standard, introduced by the Court in prior decisions, is not mentioned in the Clean Water Act and should not be used. The Court determined that the standard applies ecological factors whose use in determining jurisdiction is not supported by the statute. The Conforming Rule removed significant nexus considerations from the definition.

- Although jurisdiction over tributaries was not addressed by the Court, the decision stated that "…the [Clean Water Act's] use of "waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." The Conforming Rule makes clear that only relatively permanent tributaries qualify as "waters of the United States."

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board

The SWRCB and nine RWQCBs have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects or for project covered under a General Order. The process begins when an applicant submits an application to the RWQCB or SWRCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for the RWQCB or SWRCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB or SWRCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

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

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

United States Fish and Wildlife Service

The USFWS implements several laws protecting the Nation's fish and wildlife resources, including the federal Endangered Species Act ([ESA] 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA) (16 USC Sections 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Endangered Species Act

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

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

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

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the U.S. or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to

which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the U.S. or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

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

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

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

California Department of Fish and Wildlife

The CDFW derives its authority from the Fish and Game Code of California and administers several state laws protecting fish and wildlife resources and the habitats upon which they depend.

California Endangered Species Act

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

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority

of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Fully Protected Species Laws

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan (NCCP) is in place that authorizes take of the fully protected species.

Avian Protection Laws

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

Protection of Lakes and Streambeds

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

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:

- Have a source and a terminus
- Have banks and a channel
- Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
- Represent the depression between the banks worn by the regular and usual flow of the water
- Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
- Include the land that is covered by the water in its ordinary low stage
- Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 C©722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation

- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic wildlife including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on project-site-specific considerations and the applicability of the indicators to the streambed at hand.

Local Jurisdiction

Kern County General Plan (KCGP)

The proposed Study Area is located within the *Kern County General Plan* (KCGP). The KCGP identifies the federal, State, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could impact biological resources.

Chapter 1. Land Use, Open Space, and Conservation Element

The Land Use, Open Space, and Conservation Element of the KCGP states that the element provides for a variety of land uses for future economic growth while also assuring the conservation of the County's agricultural, natural, and resource attributes. Section 1.10, *General Provisions*, provides goals, policies, and implementation measures that apply to all types of discretionary projects.

Section 1.10 – General Provisions

GOALS

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Section 1.10.5 – Threatened and Endangered Species

POLICIES

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.

Policy 28: County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 30: The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and Federal programs concerning endangered species conservation issues.

Policy 31: Under the provisions of the California Environmental Quality Act (CEQA), the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Policy 32: Riparian areas will be managed in accordance with United States Army Corps of Engineers, and the California Department of Fish and Game rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

IMPLEMENTATION MEASURES

Measure Q: Discretionary projects shall consider effects to biological resources as required by the California Environmental Quality Act.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to the California Environmental Quality Act.

Measure S: Pursue the development and implementation of conservation programs with State and Federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Kern County Code of Ordinances

The proposed Study Area is also covered under the Kern County Code of Ordinances. The Code of Ordinances codifies all existing ordinances of Kern County, including those that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could impact biological resources.

The Kern County Municipal Code Chapter 19.73 (Kern River Corridor Combining District) Development Standards prohibits the removal of live native trees with a trunk diameter in excess of eight inches, measured at a height of four feet above grade within the required ninety foot setback from the designated floodway except as authorized by the written approval of the planning director.

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Appendix B

Project Site Photographs

Photograph 1. The Kern River with in-channel vegetation and Bermudagrass turf along the riverbank with broken concrete and imported rock for scour protection, facing south. September 13, 2022.

Photograph 2. Kern River and bank south and east of the Study Area, facing south. September 13, 2022.

Photograph 3. The existing raw water intake pipe exiting the Kern River and up the bank. Broken concrete and Fremont cottonwood woodland along the bank slope, facing south. September 13, 2022.

Photograph 4. Broken concrete and imported rocks with landscaped trees for scour protection along the Kern River bank slope, facing northeast. September 13, 2022.

Photograph 5. Fremont cottonwood habitat within the Study Area. September 13, 2022.

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Appendix C

Floral and Faunal Compendium

Plant Species Observed Within the Biological Study Area on September 13, 2022

Scientific Name	Common Name	Status	Native or Introduced with Cal-IPC ranking
Trees			
Fraxinus latifolia	Oregon ash	–	Native
Platanus racemosa	California sycamore	–	Native
Populus fremontii	Fremont cottonwood	–	Native
Salix gooddingii	Gooding's willow	–	Native
Shrubs			
Baccharis salicifolia	mulefat	–	Native
Herbs			
Bidens frondose	Sticktight	–	Native
Datura wrightii	Jimsonweed	–	Native
Melilotus albus	White sweetclover	–	Introduced
Parthenocissus quinquefolia	Virginia creeper	–	Introduced
Persicaria punctata	Dotted smartweed	–	Native
Tribulus terrestris	Puncture vine	–	Introduced
Xanthium strumarium	Cocklebur	–	Native
Grasses			
Cynodon dactylon	Bermuda grass	–	Introduced
Cyperus eragrostis	Tall flatsedge	–	Native
Digitaria sanguinalis	crabgrass	–	Introduced
Scirpus microcarpus	Panicled bulrush	–	Native

Cal-IPC = California Invasive Plant Council

Wildlife Species Observed Within the Biological Study Area on September 13, 2022

Scientific Name	Common Name	Status	Native or Introduced
Birds			
Corvus brachyrhynchos	American crow	None	Native
Calypte anna	Anna's hummingbird	None	Native
Sayornis nigricans	Black phoebe	None	Native
Corvus corax	Common raven	None	Native
Streptopelia decaocto	Eurasian collared dove	None	Introduced
Haemorhous mexicanus	House finch	None	Native
Spinus psaltria	Lesser goldfinch	None	Native
Anas platyrhynchos	Mallard	None	Native
Picoides nuttallii	Nuttall’s woodpecker	None	Native
Cathartes aura	Turkey vulture	None	Native
Mammals			
Otospermophilus beecheyi	California ground squirrel	None	Native
Reptiles			
Sceloporus occidentalis	Western fence lizard	None	Native

Appendix D

Special-Status Species Evaluation Tables

Special-Status Plant Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Allium howellii var. howellii Howell's onion	None/None G3G4T3/S3 4.3	Perennial bulbiferous herb. Valley and foothill grassland. Clay (sometimes), serpentinite (sometimes). Elevations: 165-7220ft. (50-2200m.) Blooms Mar-Apr.	No Potential	No suitable habitat with clay or serpentinite soils is present. There are no CNDDB documented occurrences of the species within 5 miles.
Almutaster pauciflorus alkali marsh aster	None/None G4/S1S2 2B.2	Perennial herb. Meadows and seeps. Alkaline. Elevations: 785-2625ft. (240-800m.) Blooms Jun-Oct.	No Potential	No suitable meadow or seep habitat with alkali soils is present. CNDDB occurrences of the species have been recorded within 5-mile range. The project is located outside the elevation range for this species.
Angelica callii Call's angelica	None/None G3/S3 4.3	Perennial herb. Cismontane woodland, lower montane coniferous forest. Mesic. Elevations: 3610-6560ft. (1100-2000m.) Blooms Jun-Jul.	No Potential	No suitable cismontane woodland or lower montane coniferous forest habitat. CNDDB occurrences of the species have not been recorded within a 5-mile range. The project is located outside the elevation range for this species.
Boechera dispar pinyon rockcress	None/None G3/S3 2B.3	Perennial herb. Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Granitic, gravelly. Elevations: 3935-8335ft. (1200-2540m.) Blooms Mar-Jun.	No Potential	No Joshua tree woodland, Mojavean desert scrub, pinyon, and juniper woodland habitat is present. The project is located outside the elevation range for this species.
Boechera evadens hidden rockcress	None/None G1/S1 1B.3	Perennial herb. Upper montane coniferous forest. Rocky. Elevations: 8400-9350ft. (2560-2850m.) Blooms May-Aug.	No Potential	The project is located outside the elevation range for this species.
Boechera pygmaea Tulare County rockcress	None/None G3/S3 4.3	Perennial herb. Meadows and seeps, subalpine coniferous forest. Granitic (sometimes), gravelly (sometimes), sandy (sometimes), volcanic (sometimes). Elevations: 7595-11155ft. (2315-3400m.) Blooms Jun-Jul.	No Potential	No suitable meadow or seep habitat or subalpine coniferous forest habitat is present. There are no CNDDB occurrences of the species within 5 miles. The project is located outside the elevation range for this species.
Bruchia bolanderi Bolander's bruchia	None/None G3/S3 4.2	Moss. Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Moss which grows on damp clay soils. Seems to colonize bare soil along streambanks, meadows, fens and springs. This species has an ephemeral nature and is disturbance adapted. Elevations: 5580-9185ft. (1700-2800m.)	No Potential	No suitable meadow or seep habitat is present within the project area. The project is located outside the elevation range for this species.
Calochortus palmeri var. palmeri Palmer's mariposa-lily	None/None G3T2/S2 1B.2 BLM S	Perennial bulbiferous herb. Chaparral, lower montane coniferous forest, meadows and seeps. Mesic. Elevations: 2330-7840ft. (710-2390m.) Blooms Apr-Jul.	No Potential	No suitable habitat present within the project area. The species has CNDDB occurrences within 5 miles of the project site and is presumed extant.
Calochortus striatus alkali mariposa-lily	None/None G3?/S2S3 1B.2 BLM S	Perennial bulbiferous herb. Chaparral, chenopod scrub, meadows and seeps, Mojavean desert scrub. Alkaline, mesic. Elevations: 230-5235ft. (70-1595m.) Blooms Apr-Jun.	No Potential	No suitable chaparral, meadow, Mojavean desert scrub or seep habitat is present. CNDDB occurrences of the species have been recorded within a 5-mile range. The project is located outside the elevation range for this species.
Calochortus westonii Shirley Meadows star-tulip	None/None G3/S3 1B.2 BLM S	Perennial bulbiferous herb. Broadleaf upland forest, lower montane coniferous forest, meadows and seeps. Granitic. Elevations: 4920-6905ft. (1500-2105m.) Blooms May-Jun.	No Potential	The project is located outside the elevation range for this species.
Camissonia integrifolia Kern River evening-primrose	None/None G2/S2 1B.3	Annual herb. Chaparral. Elevations: 2295-3280ft. (700-1000m.) Blooms (Apr)May.	No Potential	The species is located within the region but not within a 5-mile range of the project site. The only CNDDB occurrences recorded within 10-mile radius.
Camissonia kernensis ssp. kernensis Kern County evening-primrose	None/None G4T3/S3 4.3	Annual herb. Chaparral, Joshua tree woodland, pinyon and juniper woodland. Granitic, gravelly (sometimes), sandy (sometimes). Elevations: 2590-6990ft. (790-2130m.) Blooms Mar-May.	No Potential	No suitable habitat is present. Suitable granitic soils may be present in the Study Area. However, the Study Area lacks the species' required plant communities and there are no CNDDB documented occurrences within 5 miles.
Canbya candida white pygmy-poppy	None/None G3G4/S3S4 4.2	Annual herb. Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Granitic, gravelly, sandy. Elevations: 1970-4790ft. (600-1460m.) Blooms Mar-Jun.	No Potential	No Joshua tree woodland, Mojavean desert scrub, pinyon, and juniper woodland habitat is present.
Carlquistia muirii Muir's tarplant	None/None G2/S2 1B.3 BLM S	Perennial rhizomatous herb. Chaparral, lower montane coniferous forest, upper montane coniferous forest. Granitic. Elevations: 2475-8205ft. (755-2500m.) Blooms Jul-Aug(Oct).	No Potential	The project site lies within the elevation range but is not anticipated to be on-site.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Ceanothus fresnensis Fresno ceanothus	None/None G4/S4 4.3	Perennial evergreen shrub. Cismontane woodland, lower montane coniferous forest. In openings. Elevations: 2955-7250ft. (900-2210m.) Blooms (Apr)May-Jul.	No Potential	No suitable cismontane woodland or lower montane coniferous forest habitat is present. There are no CNDDB documented occurrences of the species within 5 miles. The project is located outside the elevation range for this species.
Ceanothus pinetorum Kern ceanothus	None/None G3/S3 4.3	Perennial evergreen shrub. Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest. Granitic, rocky. Elevations: 3410-9005ft. (1040-2745m.) Blooms May-Jul.	No Potential	The project site lies within the elevation range. No potential habitat located on-site.
Chaenactis douglasii var. alpina alpine dusty maidens	None/None G5T5/S2 2B.3	Perennial herb. Alpine boulder and rock field. Open, subalpine to alpine gravel and crevices; granitic substrate. Elevations: 9400-11155ft. (2865-3400m.) Blooms Jul-Sep.	No Potential	The project is located outside the elevation range for this species.
Clarkia exilis slender clarkia	None/None G3/S3 4.3	Annual herb. Cismontane woodland. Elevations: 395-3280ft. (120-1000m.) Blooms Apr-May.	No Potential	No suitable cismontane woodland habitat is present. There are no CNDDB documented occurrences of the species within 5 miles.
Clarkia xantiana ssp. parviflora Kern Canyon clarkia	None/None G4T3?/S3? 4.2	Annual herb. Chaparral, cismontane woodland, great basin scrub, valley and foothill grassland. Roadsides (sometimes), Rocky (sometimes), sandy (often), slopes. Elevations: 2295-11875ft. (700-3620m.) Blooms May-Jun.	Low Potential	3 CNDDB occurrences for this species have been recorded within a 5-mile range of the project site.
Claytonia palustris marsh claytonia	None/None G4/S4 4.3	Perennial herb. Marshes and swamps, meadows and seeps, upper montane coniferous forest. Sunny areas in meadows, marshy slopes, and streamside veg. Known from two disjunct regions. Elevations: 3280-8205ft. (1000-2500m.) Blooms May-Oct.	No Potential	No suitable marsh or swamp, meadow or seep, or upper montane coniferous forest habitat is present. There are no CNDDB documented occurrences of the species within 5 miles. The project is located outside the elevation range for this species.
Cordylanthus rigidus ssp. brevibracteatus short-bracted bird's-beak	None/None G5T3/S3 4.3	Annual herb (hemiparasitic). Chaparral, lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. Granitic, openings. Elevations: 2000-8500ft. (610-2590m.) Blooms Jul-Aug(Sep-Oct).	No Potential	No suitable chaparral, pinyon, and juniper woodland habitat is present. No CNDDB occurrences of the species have been recorded within a 5-mile range.
Cryptantha clokeyi Clokey's cryptantha	None/None G3/S3 1B.2	Annual herb. Mojavean desert scrub. Sandy or gravelly soils. Elevations: 2380-4480ft. (725-1365m.) Blooms Apr.	No Potential	No suitable Mojavean desert scrub habitat is present. No CNDDB occurrences of the species have been recorded within a 5-mile range.
Cryptantha incana Tulare cryptantha	None/None G2/S2 1B.3	Annual herb. Lower montane coniferous forest. Gravelly or rocky sites. Elevations: 4690-7055ft. (1430-2150m.) Blooms Jun-Aug.	No Potential	The project is located outside the elevation range for this species. One CNDDB occurrence was recorded within a 5-mile range, however, it is not anticipated to occur on the project site.
Deinandra mohavensis Mojave tarplant	None/SCE G2/S3 1B.3 BLM S	Annual herb. Chaparral, coastal scrub, riparian scrub. Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas. Elevations: 2100-5250ft. (640-1600m.) Blooms (Jan-May)Jun-Oct.	Low Potential	One CNDDB occurrence was recorded near the Study Area; however, this species is historic (1910). Potentially suitable habitat is located adjacent to the Study Area in the Kern River; however, the Study Area lacks low sand bars and contains a prevalence of non-native herbaceous species, is previously developed and subject to ongoing disturbance.
Delphinium inopinum unexpected larkspur	None/None G3/S3 4.3	Perennial herb. Upper montane coniferous forest. On open rocky ridgetops; on metamorphics in red fir and western white pine forest. Elevations: 6200-9185ft. (1890-2800m.) Blooms May-Jul.	No Potential	The project is located outside the elevation range for this species.
Delphinium purpusii rose-flowered larkspur	None/None G3/S3 1B.3 BLM S	Perennial herb. Chaparral, cismontane woodland, pinyon and juniper woodland. On shady rocky slopes; often on carbonates. Elevations: 985-4395ft. (300-1340m.) Blooms (Mar)Apr-May.	Low Potential	There are multiple CNDDB occurrences of this species within a 5-mile range of the Study Area. Elements of suitable habitat are present in the Study Area; however, prior development, existing disturbance, and a prevalence of non-native, herbaceous species reduce the potential for occurrence.
Diplacus pictus calico monkeyflower	None/None G2/S2 1B.2 BLM S	Annual herb. Broadleaf upland forest, cismontane woodland. In bare ground around gooseberry bushes or around granite rock outcrops. Elevations: 330-4690ft. (100-1430m.) Blooms Mar-May.	No Potential	No suitable habitat is present within the project site. No CNDDB occurrences have been recorded for this species within a 5-mile range.
Dudleya abramsii ssp. *calcicola* limestone dudleya	None/None G4T4/S4 4.3	Perennial herb. Chaparral, pinyon and juniper woodland. Rocky places on limestone. Elevations: 1640-8530ft. (500-2600m.) Blooms Apr-Aug.	No Potential	No pinyon or juniper woodland habitat observed onsite. No CNDDB occurrences have been recorded for this species within a 5-mile range.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Elodium blandowii Blandow's bog moss	None/None G4/S2 2B.3	Moss. Meadows and seeps, subalpine coniferous forest. Moss growing on damp soil, especially under willows among leaf litter. Elevations: 6110-8860ft. (1862-2700m.)	No Potential	The project is located outside the elevation range for this species.
Entosthodon kochii Koch's cord moss	None/None G1/S1 1B.3 BLM S	Moss. Cismontane woodland. Moss growing on soil on river banks. Elevations: 590-3280ft. (180-1000m.)	Low Potential	No suitable cismontane woodland habitat is present. There is river bank habitat present. However, the Study Area is disturbed by existing development and there are no CNDDB documented occurrences of the species within 5 miles.
Eriastrum hooveri Hoover's eriastrum	FD/None G3/S3 4.2	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. On sparsely vegetated alkaline alluvial fans; also in the Temblor Range on sandy soils. Elevations: 165-3000ft. (50-915m.) Blooms Mar-Jul.	No Potential	No suitable habitat or soil is present. There are no CNDDB documented occurrences of the species within 5 miles.
Eriastrum sparsiflorum few-flowered eriastrum	None/None G5/S4 4.3	Annual herb. Chaparral, cismontane woodland, great basin scrub, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Granitic soils; mostly in openings. Elevations: 3525-5610ft. (1075-1710m.) Blooms May-Sep.	No Potential	No suitable habitat is present within the Study Area. There are no CNDDB documented occurrences of the species within 5 miles. The project is located outside the elevation range for this species.
Eriastrum tracyi Tracy's eriastrum	None/SCR G3Q/S3 3.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Gravelly shale or clay; often in open areas. Elevations: 1035-5840ft. (315-1780m.) Blooms May-Jul.	No Potential	No suitable habitat observed onsite. No CNDDB occurrences have been recorded for this species within a 5-mile range.
Erigeron multiceps Kern River daisy	None/None G2G3/S2S3 1B.2	Perennial herb. Meadows and seeps, upper montane coniferous forest. River banks and dry meadow borders; usually in open, grassy areas. Elevations: 4920-8315ft. (1500-2535m.) Blooms Jun-Sep.	No Potential	The project is located outside the elevation range for this species.
Eriogonum breedlovei var. shevockii Needles buckwheat	None/None G3T3/S3 4.3	Perennial herb. Pinyon and juniper woodland, upper montane coniferous forest. Granitic rock outcrops; in granite crevices and ledges on small domes. Elevations: 5300-8450ft. (1615-2575m.) Blooms (Jun)Jul-Sep.	No Potential	The project is located outside the elevation range for this species.
Eriogonum polypodum Tulare County buckwheat	None/None G4/S4 4.3	Perennial herb. Subalpine coniferous forest. On dry, sandy or gravelly granitic substrate. Elevations: 7875-11485ft. (2400-3500m.) Blooms Jul-Aug.	No Potential	The project is located outside the elevation range for this species.
Eriophyllum lanatum var. obovatum southern Sierra woolly sunflower	None/None G5T4/S4 4.3	Perennial herb. Lower montane coniferous forest, upper montane coniferous forest. Sandy loam. Elevations: 3655-8205ft. (1114-2500m.) Blooms Jun-Jul.	No Potential	The project is located outside the elevation range for this species.
Erythranthe shevockii Kelso Creek monkeyflower	None/None G1/S1 1B.1 BLM S	Annual herb. Joshua tree woodland, pinyon and juniper woodland. Mostly known from Joshua tree-xeric conifer woodland in the high desert, in loose, granitic sandy soil. Elevations: 2625-4395ft. (800-1340m.) Blooms Mar-May.	No Potential	Two CNDDB occurrences within a 5-mile range. No suitable Joshua tree-xeric conifer woodland habitat present in the project area.
Erythranthe sierrae Sierra Nevada monkeyflower	None/None G2/S2 4.2	Annual herb. Cismontane woodland, lower montane coniferous forest, meadows and seeps. Primarily in decomposed granite in vernally wet depressions, swales, at the edges of streams, dry meadows, and in openings of pine forest and oak woodland. Sandy to gravelly soils. Elevations: 605-7495ft. (185-2285m.) Blooms Mar-Jul.	No Potential	No suitable habitat present in the project area. There are no documented CNDDB occurrences of the species within 5 miles.
Eschscholzia procera Kernville poppy	None/None G1?Q/S1? 3	Perennial herb. Cismontane woodland. Sandy floodplain; collections also from decomposed granite, limestone, and metamorphics. Elevations: 2660-3365ft. (810-1025m.) Blooms Jun-Jul(Aug).	No Potential	The project is located outside the elevation range for this species.
Fimbristylis thermalis hot springs fimbristylis	None/None G4/S1S2 2B.2	Perennial rhizomatous herb. Meadows and seeps. Near hot springs. Elevations: 360-4395ft. (110-1340m.) Blooms Jul-Sep.	No Potential	No suitable habitat present within project area. One CNDDB occurrence of the species has been recorded within a 5-mile range.
Frasera tubulosa Coville's green-gentian	None/None G3/S3 4.3	Perennial herb. Lower montane coniferous forest, upper montane coniferous forest. Granitic, sandy. Elevations: 3135-10795ft. (955-3290m.) Blooms Jul-Aug.	No Potential	Suitable lower montane coniferous forest and upper montane coniferous forest habitat is not present. There are no CNDDB documented occurrences of the species within 5 miles. The project is located outside the elevation range for this species.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Fritillaria brandegeei Greenhorn fritillary	None/None G2G3/S2S3 1B.3	Perennial bulbiferous herb. Lower montane coniferous forest. Loamy, granitic soils; often in mixed conifer-black oak community. Elevations: 4365-6890ft. (1330-2100m.) Blooms Apr-Jun.	No Potential	The project is located outside the elevation range for this species.
Fritillaria pinetorum pine fritillary	None/None G4/S4 4.3	Perennial bulbiferous herb. Chaparral, lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest. Granite or metamorphics. Elevations: 5695-10825ft. (1735-3300m.) Blooms May-Jul(Sep).	No Potential	The project is located outside the elevation range for this species and the Study Area does not contain the species' required habitat types.
Galium angustifolium ssp. onycense Onyx Peak bedstraw	None/None G5T3/S3 1B.3 BLM S	Perennial herb. Cismontane woodland, pinyon and juniper woodland. Grows from under and between large granite rocks and outcrops with scattered grey pines and oaks. Elevations: 2820-7545ft. (860-2300m.) Blooms Apr-Jul.	No Potential	The project is located outside the elevation range for this species.
Gilia interior inland gilia	None/None G4/S4 4.3	Annual herb. Cismontane woodland, Joshua tree woodland, lower montane coniferous forest. Rocky sites. Elevations: 2295-5580ft. (700-1700m.) Blooms Mar-May.	No Potential	No suitable habitat present. No CNDDB occurrences of the species have been recorded within a 5-mile range.
Githopsis tenella delicate bluecup	None/None G2/S2 1B.3 BLM S	Annual herb. Chaparral, cismontane woodland. Mesic sites. Sometimes on serpentine. Elevations: 1065-6235ft. (325-1900m.) Blooms Apr-Jun.	No Potential	No suitable habitat present within the project area. No CNDDB occurrences recorded within 5 miles of the project site.
Hesperocyparis nevadensis Piute cypress	None/None G2/S2 1B.2 BLM S	Perennial evergreen tree. Chaparral, cismontane woodland, closed-cone coniferous forest, pinyon and juniper woodland. On dry slopes; known from granodiorite, gabbro and limestone. Elevations: 2360-6005ft. (720-1830m.)	No Potential	Multiple CNDDB occurrences recorded within a 5-mile range from the project site. No suitable habitat observed on the project.
Hosackia oblongifolia var. cuprea copper-flowered bird's-foot trefoil	None/None G5T2/S2 1B.3	Perennial rhizomatous herb. Meadows and seeps, upper montane coniferous forest. Wet meadow borders. Elevations: 7875-9025ft. (2400-2750m.) Blooms Jun-Aug.	No Potential	The project is located outside the elevation range for this species.
Ivesia campestris field ivesia	None/None G3/S3 1B.2	Perennial herb. Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Meadow edges. Elevations: 6480-11140ft. (1975-3395m.) Blooms May-Aug.	No Potential	The project is located outside the elevation range for this species.
Lewisia disepala Yosemite lewisia	None/None G2/S2 1B.2 BLM S	Perennial herb. Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. Fine gravel on rock outcrops, ridges, or domes. Granitic soils. Elevations: 3395-11485ft. (1035-3500m.) Blooms Mar-Jun.	No Potential	The project is located outside the elevation range for this species.
Mielichhoferia shevockii Shevock's copper moss	None/None G2/S2 1B.2 BLM S	Moss. Cismontane woodland. Moss on metamorphic rocks containing heavy metals; mesic sites. On rocks along roads, in same habitat as *Mielichhoferia elongata*. Elevations: 2460-4595ft. (750-1400m.)	No Potential	One CNDDB occurrence was recorded within a 5-mile range from the project site. Species not anticipated to be on site.
Monardella exilis Mojave monardella	None/None G3?/S3 4.2	Chenopod scrub, desert dunes, Great Basin scrub, Joshua tree "woodland", Lower montane coniferous forest, Mojavean desert scrub, Pinyon and juniper woodland. Sandy 600-2050m. Blooms Apr-Sep.	No Potential	The project is located outside the elevation range for this species and the Study Area does not contain the species' required habitat types.
Monardella linoides ssp. anemonoides southern Sierra monardella	None/None G5T2/S2 1B.3	Perennial herb. Chaparral, cismontane woodland, lower montane coniferous forest. Elevations: 2200-8040ft. (670-2450m.) Blooms Jun-Aug.	Low Potential	Some suitable habitat is present near the Study Area (cismontane woodland). Two CNDDB occurrences of the species were recorded within a 5-mile range and near the Study Area; however, both occurrences are historic (1904, 1941). Prior development, existing disturbances, and a prevalence of non-native, herbaceous species reduce the potential for occurrence.
Monolopia congdonii San Joaquin woollythreads	FE/None G2/S2 1B.2	Annual herb. Chenopod scrub, valley and foothill grassland. Alkaline or loamy plains; sandy soils, often with grasses and within chenopod scrub. Elevations: 195-2625ft. (60-800m.) Blooms Feb-May.	No Potential	The project is located outside the elevation range for this species.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Muilla coronata crowned muilla	None/None G3/S3 4.2	Perennial bulbiferous herb. Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Mostly on barren flats and ridges in sandy, granitic soils. Elevations: 2200-6430ft. (670-1960m.) Blooms Mar-Apr(May).	No Potential	No suitable habitat is present. Suitable granitic soils may be present. However, the Study Area is disturbed and there are no CNDDB documented occurrences of the species within 5 miles.
Nemacladus bellus beautiful threadplant	None/None G2/S2 1B.3	Cismontane woodland, Joshua tree woodland. Granitic, gravelly, sandy soils. Elevations: 2624-5905ft. (800-1800m.) Blooms (Apr)May-Jul.	Low Potential	No suitable cismontane woodland or Joshua tree woodland habitat is present. The most recent CNDDB documented occurrence of the species within 5 miles is greater than 60 years old. While the Study Area contains elements of potential habitat (e.g., granitic / gravelly soils); the prior development, existing disturbances, and prevalence on non-native, herbaceous vegetation reduces the potential for occurrence.
Nemacladus twisselmannii Twisselmann's nemacladus	None/SCR G1T1/S1 1B.2	Annual herb. Upper montane coniferous forest. Sandy or rocky granitic soils, open ridgetops and gentle slopes in Jeffrey pine forest. Elevations: 7350-8040ft. (2240-2450m.) Blooms Jul.	No Potential	The project is located outside the elevation range for this species.
Nemophila parviflora var. quercifolia oak-leaved nemophila	None/None G5T4/S4 4.3	Annual herb. Cismontane woodland, lower montane coniferous forest. Elevations: 2295-7220ft. (700-2200m.) Blooms May-Jun.	No Potential	No suitable cismontane woodland or lower montane coniferous forest is present. There are no CNDDB documented occurrences of the species within 5 miles.
Phacelia exilis Transverse Range phacelia	None/None G4Q/S4 4.3	Annual herb. Lower montane coniferous forest, meadows and seeps, pebble (pavement) plain, upper montane coniferous forest. Sandy or rocky slopes, flats, meadows. Elevations: 3610-8860ft. (1100-2700m.) Blooms May-Aug.	No Potential	Suitable habitat is not present. There are no CNDDB occurrences of the species within 5 miles. The project is located outside the elevation range for this species.
Phacelia mohavensis Mojave phacelia	None/None G4Q/S4 4.3	Annual herb. Cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland. Sandy or gravelly soils, dry streambeds. Elevations: 4595-8205ft. (1400-2500m.) Blooms Apr-Aug.	No Potential	The project is located outside the elevation range for this species and the Study Area lacks the species' required habitat types.
Phacelia novenmillensis Nine Mile Canyon phacelia	None/None G3/S3 1B.2 BLM S	Annual herb. Broadleaf upland forest, cismontane woodland, pinyon and juniper woodland, upper montane coniferous forest. Dry disturbed banks, granitic or metamorphic soils; sandy or gravelly sites. Elevations: 5395-8660ft. (1645-2640m.) Blooms (Feb)May-Jun.	No Potential	The project is located outside the elevation range for this species.
Plagiobryoides vinosula wine-colored tufa moss	None/None G3G4/S3S4 4.2	Moss. Cismontane woodland, meadows and seeps, Mojavean desert scrub, pinyon and juniper woodland, riparian woodland. FNA says damp, calcareous rock. Also known near hot springs. Elevations: 100-5695ft. (30-1735m.)	No Potential	No suitable chenopod scrub, pinyon, and juniper woodland habitat is present. One CNDDB occurrence of the species was recorded within a 5-mile range, however, exact location is unknown.
Puccinellia simplex California alkali grass	None/None G2/S2 1B.2 BLM S	Annual herb. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. Alkaline, vernally mesic. Sinks, flats, and lake margins. Elevations: 5-3050ft. (2-930m.) Blooms Mar-May.	No Potential	No suitable meadow or seep habitat with alkali soils is present. CNDDB occurrences of the species have been recorded within 5-mile range. No CNDDB occurrences of the species have been recorded within a 5-mile range.
Selaginella asprella bluish spike-moss	None/None G4/S4 4.3	Perennial rhizomatous herb. Cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest. Dry, rocky soils, crevices; granitic substrate. Elevations: 5250-8860ft. (1600-2700m.) Blooms Jul.	No Potential	The project is located outside the elevation range for this species and the Study Area lacks the species' required habitat types.
Sidalcea multifida cut-leaf checkerbloom	None/None G3/S2 2B.3	Perennial herb. Great basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland. Elevations: 5740-9185ft. (1750-2800m.) Blooms May-Sep.	No Potential	The project is located outside the elevation range for this species.
Sphenopholis obtusata prairie wedge grass	None/None G5/S2 2B.2	Perennial herb. Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. Elevations: 985-6560ft. (300-2000m.) Blooms Apr-Jul.	No Potential	No suitable habitat present. No CNDDB occurrences of the species have been recorded within a 5-mile range.
Stylocline masonii Mason's neststraw	None/None G1/S1 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland. Sandy washes. Elevations: 330-3935ft. (100-1200m.) Blooms Mar-May.	No Potential	No suitable chenopod scrub, pinyon, and juniper woodland habitat is present. One CNDDB occurrence of the species was recorded within a 5-mile range, however, exact location is unknown.
Viola pinetorum ssp. grisea grey-leaved violet	None/None G4G5T3/S3 1B.2 BLM S	Perennial herb. Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Dry mountain peaks and slopes. Elevations: 4920-11155ft. (1500-3400m.) Blooms Apr-Jul.	No Potential	The project is located outside the elevation range for this species.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Yucca brevifolia western Joshua tree	None/SCT G3G4/SNR CBR	Perennial Broadleaf evergreen. Joshua tree woodland, montane chaparral, pinyon and juniper woodland, Sonoran and Mojavean desert scrub. Elevation:1600-7200ft (490-823m.) Blooms Mar - May.	No Potential	No suitable habitat is present. There are no CNDDB documented occurrences of the species within 5 miles.

Regional Vicinity refers to within a 9-quad search radius of the Study Area.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List
BLM S = Bureau of Land Management Sensitive

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery
SNR Unranked; state rank not yet assessed

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (Review List)
4 = Limited Distribution (Watch List)
CBR = Considered but Rejected

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Special-Status Wildlife Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
Bombus crotchii Crotch's bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Moderate Potential	Suitable food plant genera either have low potential or no potential to occur in the Study Area. The project site is previously developed and subject to ongoing disturbances. There is one documented CNDDB occurrence of the species within 1 mile of the Study Area noting collections of the species in 1952 and 1991. These collections were made in the general vicinity of Kernville, along the Kern River.
Danaus Plexippus pop. 1 monarch – California overwintering population	FPT/None G4T2T3/S2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Low Potential (transient)	Suitable winter roosting habitat is not present in the Study Area. Suitable food plant genera are also not present in the Study Area. No CNDDB occurrences recorded for this species within a 5-mile range of the Study Area.
Fish				
Onchorhynchus mykiss aguabonita California golden trout	None/None G5T1/S1 SSC	Native to Kern Plateau in wide, shallow and exposed streams with little riparian vegetation. Transplanted within and outside of California beyond native range. Stream bottoms of sand, gravel and some cobble. Water is clear and usually cold, but summer temperatures can vary from 3 to 22 C.	Low Potential	Suitable habitat is present within the Study Area. No CNDDB occurrences recorded for this species within a 5-mile range of the Study Area. This species is only known to occur in the southern fork of the Kern River and in Lake Isabella, but not in the north fork where our project is.
Onchorhynchus mykiss gilberti Kern River rainbow trout	FC/None G5T1Q/S1 SSC	Endemic to the upper Kern River and its tributaries. Cool, clear, fast flowing streams where riffles are abundant.	High Potential	CNDDB occurrences recorded for this species overlap with the Study Area.
Reptiles				
Actinemys marmorata northwestern pond turtle	FPT/None G2/SNR BLM S SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. Occurs in northern California, south along the Sierra Nevada Mountains and the Coast Range down to Monterey and Kern Counties.	Low Potential	Suitable aquatic habitat is present within the Study Area; however the Study Area is previously developed and subject to ongoing disturbance. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Anniella campi southern Sierra legless lizard	None/None G1G2/S2 SSC	Desert canyons and springs along western edge of the Mojave Desert in Kern and Inyo counties. Microhabitat of this species is poorly known. Other legless lizard species occur in sparsely vegetated areas with moist, loose soil. Often found underneath leaf litter, rocks, and logs.	Moderate Potential	Suitable habitat is present within the project vicinity and adjacent habitat. Two CNDDB occurrences for the species recorded in 2010 and 2016 within a 5-mile range of the Study Area.
Anniella spp. California legless lizard	None/None G3G4/S3S4 SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of Anniella not yet assigned to new species within the Anniella pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Low Potential	Suitable habitat is present within the project vicinity and adjacent habitat. One CNDDB occurrence in 1959 was recorded approximately 2-miles from the Study Area.
Charina umbratica southern rubber boa	None/ST G2G3/S2	Found in a variety of montane forest habitats. Previously considered morphologically intermediate, recent (2022) genomic analysis clarifies individuals from Mt Pinos, Tehachapi Mts, and southern Sierra Nevada are southern rubber boa. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	No Potential	No suitable plant communities or burrowing habitat is present in the Study Area. The most recent CNDDB documented occurrence within 5 miles of the study area is >70 years old.
Amphibians				
Rana boylii pop. 5 foothill yellow-legged frog – south Sierra DPS	FE/SE G3T2/S2 BLM S	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Low Potential	Four CNDDB occurrences recorded in 1891, 1940, 1946, and 1963. Potential habitat adjacent to Study Area; however, the Study Area is previously developed and subject to ongoing disturbance.
Rana muscosa southern mountain yellow-legged frog	FE/SE G1/S2 WL	Disjunct populations known from southern Sierras (northern DPS) and San Gabriel, San Bernardino, and San Jacinto Mtns (southern DPS). Found at 1,000 to 12,000 ft in lakes and creeks that stem from springs and snowmelt. May overwinter under frozen lakes. Often encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	No Potential	The species is not located in the same region as the project site. No CNDDB occurrences recorded within 5-mile range of the project site.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Birds				
Accipiter atricapillus American goshawk	None/None G5/S3 SSC BLM S	Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Low Potential	Suitable habitat is present near the Study Area. However, no suitable nesting habitat is present in the Study Area and human and traffic disturbance lower the probability of occurrence. No CNDDB occurrences of the species are present within a 5-mile range of the Study Area.
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Low Potential	Suitable habitat is present near the Study Area. However, human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Accipiter gentilis northern goshawk	None/None G5/S3 SSC	Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Low Potential	Suitable habitat is present within the project vicinity. However, human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Agelaius tricolor tricolored blackbird	None/ST G1G2/S1S2 SSC BLM S	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Low Potential	Suitable foraging habitat is present within the project vicinity and adjacent habitat. However, no suitable breeding habitat is present in the Study Area. Human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Aquila chrysaetos golden eagle	None/None G5/S3 BLM S FP WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low Potential	Suitable habitat for hunting is present near the Study Area; however no suitable nesting habitat is present. Human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Asio otus long-eared owl	None/None G5/S3? SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Low Potential	Suitable habitat is present near the Study Area. However, human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Buteo swainsoni Swainson's hawk	None/ST G5/S4 BLM S	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Low Potential	Suitable habitat is present within 5 miles of the Study Area. One CNDDB occurrence from 1992 recorded approximately 3-miles from the Study Area. The species is presumed extant.
Circus hudsonius northern harrier	None/None G5/S3 SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Low Potential	No suitable nesting habitat is present in the Study Area. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Low Potential	Some suitable habitat is present within a 5-mile range of the Study Area. No CNDDB occurrences for this species present within the Study Area.
Contopus cooperi olive-sided flycatcher	None/None G4/S3 SSC	Nesting habitats are mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine. Most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	Low Potential	No suitable nesting habitat is present in the Study Area. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area.
Cypseloides niger black swift	None/None G4/S3 SSC	Coastal belt of Santa Cruz and Monterey counties; central and southern Sierra Nevada; San Bernardino and San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	Low Potential	No suitable nesting habitat is present in the Study Area. Human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for this species are present within a 5-mile range of the Study Area.
Dendragapus fuliginosus howardi Mount Pinos sooty grouse	None/None G5T2T3/S3 SSC	Inhabitant of southern Sierra Nevada mountains, in small islands of populations. Mainly inhabits white fir covered slopes. Also found in other conifer types and open, brushy areas adjacent to forest.	No Potential	No suitable habitat for this species exists within the project area.
Empidonax traillii extimus southwestern willow flycatcher	FE/SE G5T2/S3	Riparian woodlands in Southern California.	Low Potential	Some suitable habitat is present within a 5-mile range of the Study Area. However, the Study Area lacks the dense and vertically complex riparian habitat required by the species. There are no CNDDB occurrences for the species present within a 5-mile range of the Study Area.
Gymnogyps californianus California condor	FE/SE G1/S2 FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	Low Potential	No suitable nesting habitat is present in the Study Area. Human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Haliaeetus leucocephalus bald eagle	FD/SE G5/S3 BLM S FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low Potential	Suitable hunting habitat present in the Study Area. However, human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Icteria virens yellow-breasted chat	None/None G5/S4 SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Moderate Potential	Suitable habitat is present within the project vicinity and adjacent habitat. However, human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Passerculus sandwichensis beldingi Belding's savannah sparrow	None/SE G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	No Potential	No suitable habitat is present in the Study Area. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Setophaga petechia yellow warbler	None/None G5/S3 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	High Potential	Suitable habitat is present within the project vicinity and adjacent habitat. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area. Ebird shows records on the Study Area within 5 years, within 1 mile this month.
Strix occidentalis occidentalis California spotted owl	None/None G3G4T2T3/S2 BLM S SSC	Mixed conifer forest, often with an understory of black oaks and other deciduous hardwoods. Canopy closure >40%. Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water.	Low Potential	No suitable nesting habitat is present in the Study Area. No CNDDB occurrences for the species are present within a 5-mile range of the study area.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S3	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No Potential	Project site occurs outside the elevation range for this species. No CNDDB occurrences for the species are present within a 5-mile range of the project site.
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC BLM S	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low Potential	Some suitable roosting habitat present within the Study Area, however, human and traffic disturbance lower probability of species presence. No CNDDB occurrences for the species are present within a 5-mile range.
Aplodontia rufa califórnica Sierra Nevada mountain beaver	None/None G5T3T4/S2S3 SSC	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	Low Potential	Suitable habitat is present within 5 miles of the Study Area and adjacent habitat. One CNDDB occurrence from 1979 is tracked near the Study Area.
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC BLM S	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls & ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Low Potential	Some suitable roosting habitat present within the Study Area, however, human and traffic disturbance lower probability of species presence. No CNDDB occurrences for the species are present within a 5-mile range.
Gulo gulo wolverine	FT/ST G4/S1 FP	Found in the north coast mountains and the Sierra Nevada. Found in a wide variety of high elevation habitats. Needs water source. Uses caves, logs, burrows for cover and den area. Hunts in more open areas. Can travel long distances.	No Potential	No suitable habitat or CNDDB occurrences for the species are present within a 5-mile range. The project is located outside the elevation range for this species.
Martes caurina sierrae Sierra marten	None/None G4G5T3/S3	Mixed evergreen forests with more than 40% crown closure along Sierra Nevada and Cascade mountains. Needs variety of different-aged stands, particularly old-growth conifers and snags which provide cavities for dens/nests.	No Potential	No suitable habitat is present in the Study Area. No CNDDB occurrences for the species are present within a 5-mile range of the study area.
Myotis yumanensis Yuma myotis	None/None G5/S4 BLM S	Occurs in a variety of lowland and upland habitats including desert scrub, riparian, and woodlands and forests. Distribution is closely tied to bodies of water. Roosts in a variety of areas including caves, cliffs, mines, crevices in live trees, and buildings and other man-made structures.	Low Potential	Suitable riparian habitat for foraging is present in the Study Area. However, human and traffic disturbance lower probability of the species presence. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Onychomys torridus tularensis Tulare grasshopper mouse	None/None G5T1T2/S1S2 SSC BLM S	Hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Diet almost exclusively composed of arthropods, therefore needs abundant supply of insects.	No Potential	No CNDDB occurrences within a 5-mile range of the Study Area, however, suitable habitat is present within the 5-mile range. The species is not expected to occur on site.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Pekania pennanti pop. 2 Fisher - southern Sierra Nevada ESU	FE/ST G5T1/S1 SSC BLM S	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	No Potential	No CNDDB occurrences have occurred within the project vicinity. No suitable habitat is present within the project area.
Perognathus inornatus San Joaquin pocket mouse	None/None G2G3/S2S3 BLM S	Grassland, oak savanna and arid scrubland in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert. Associated with fine-textured, sandy, friable soils.	No Potential	No suitable plant communities or soils are present. No CNDDB occurrences for the species are present within a 5-mile range of the Study Area.
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low Potential	No CNDDB occurrences have occurred within the project vicinity. There is suitable habitat and foraging opportunity present within a 5-mile range of the Study Area, however, no sign of the species were observed during the reconnaissance survey.
Vulpes vulpes necator pop. 2 Sierra Nevada red fox - Sierra Nevada DPS	FE/ST G5TNR/S1	Use multiple habitat types in the alpine and subalpine zones including high-elevation conifer dominated by whitebark pine, mountain hemlock and lodgepole pine, as well as meadows and fell-fields; typically in areas of heavy snow cover. Generally above 1,200 meters (3,900 feet).	No Potential	The project is located outside the elevation range for this species. No suitable habitat observed within the project area.

Regional Vicinity refers to within a 9-quad search radius of the Study Area.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
FCT = Federal Candidate Threatened
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List
SNR = Unranked; state rank not yet assessed

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery
GNR/TNR Unranked