

This section describes the existing biological resources, including special-status species and sensitive habitat known to occur and/or have the potential to occur in the project study area (PSA). The PSA was defined by the proposed quarry boundary, plus the haul road with a 200-foot buffer.<sup>1</sup> A summary of the regulations and programs that provide protective measures to special-status species, an analysis of impacts on biological resources that could result from project implementation, and a discussion of mitigation measures necessary to reduce impacts to a less than significant level, where feasible, are provided in this section.

The County published a Notice of Preparation and Initial Study (NOP/IS) for the proposed project on June 12, 2013. A copy of the NOP/IS, along with comments received during the public review period, is contained in EIR Appendix A. The California Department of Fish and Wildlife (CDFW) submitted comments on the NOP, and those comments were considered in the preparation of this section. In addition, the EIR preparers met with CDFW staff at the project site to discuss specific comments.

### 3.3.1 EXISTING SETTING

Several steps were taken to characterize the environmental setting in the project vicinity. First, project-related documentation was reviewed to collect site-specific data regarding habitat suitability for special-status species, as well as the identification of potentially jurisdictional waters. Additional information was obtained from a variety of outside data sources and can be found in the reference list. Lastly, preliminary database searches were performed on the following websites to identify special-status species with the potential to occur in the area:

- U.S. Fish and Wildlife Service's (USFWS) Information Planning and Conservation (IPaC) System (2013a)
- USFWS Critical Habitat Portal (2013b)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (2013a)
- California Native Plant Society (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (2013)

The USFWS IPaC System was queried to identify special-status species within USFWS jurisdiction that have the potential to occur within the PSA. In addition, the USFWS Critical Habitat Portal was queried to identify designated critical habitat within 1 mile of the PSA. A query of the CNDDDB database provided a list of known occurrences for special-status species within a 1-, 5-, and 10-mile radius of the PSA. Lastly, the CNPS database was queried to identify special-status plant species with the potential to occur within the Butler Peak, Fifteenmile, Fawnskin, and Lucerne Valley, California, U.S. Geological Survey (USGS) 7.5-minute quadrangles. Raw data from the database queries are provided in **EIR Appendix D**. Please see the Special-Status Species subsection below for a summary of the database search results and conclusions regarding the potential for each species to be impacted by project-related activities.

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<sup>1</sup> Total area of PSA is 659.5 acres. This includes 239.4 acres of haul road area and 420.1 acres of quarry boundary area as is shown in Figures 3.3-1a and 3.3-1b. The PSA extends beyond the boundary of the 375.1-acre area that comprises the project site (see Chapter 2.0, Project Description).

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#### REGIONAL SETTING

The PSA is located within the Mojave Desert ecological section of the American Semidesert and Desert ecological province (McNab et al. 2007). This province is characterized by long, hot summers and mild winters with a small amount of precipitation. The landscape consists of plains from below sea level to low mountain ranges with sparse vegetation of dwarf-shrubland, along with scattered occurrences of shrubland and woodland at higher elevations (McNab et al. 2007). Within the Mojave Desert section, the terrain consists of plains, low mountain ranges, playas, basins, and dunes. Soils are derived from sedimentary and granitic rocks as well as alluvial deposits. The vegetation is characterized by desert shrub, pinyon-juniper, and at higher elevations fir-spruce cover types (McNab et al. 2007). The Mojave Desert section is further subdivided into 16 subsections.

#### PHYSICAL SETTING

The PSA is associated with the Lucerne-Johnson Valleys and Hills subsection of the Mojave ecological section, comprising the mountains, hills, pediments, and alluvial plain north of the San Bernardino Mountains, Bighorn Mountains, and Pinto Mountain Fault from the Mojave River east to a linear depression that stretches from Troy Lake southeast to Cadiz Lake (Goudey and Miles 1998). Soils are predominantly well drained, with the exception of poorly drained playas that lack vascular plants. Vegetation is largely characterized by creosote bush series and big galleta series, with Joshua tree series common in pediments and fans, and Indian ricegrass series common on eolian sands (Goudey and Miles 1998). The mixed saltbush series is common on the basin floor, with iodine bush series and saltgrass series on wet basin-fill and lacustrine deposits (Goudey and Miles 1998). At higher elevations, California juniper series dominates over 3,000 feet (909 meters) above mean sea level (amsl), and black bush series occurs on the higher mountains (Goudey and Miles 1998). The climate is hot and arid with mean annual temperatures between 50° and 68° Fahrenheit, and 4–8 inches of precipitation that falls mostly as rain annually (Goudey and Miles 1998). Watersheds in this subsection are closed, and streams are dry most of the year with temporary ponding in playas and dry lake beds (Goudey and Miles 1998). Surface water runoff is rapid from the mountains and alluvial fans, but slow from basin-fill (Goudey and Miles 1998).

#### BIOLOGICAL SETTING

The PSA comprises a mix of barren and urban land uses along with natural community types. Uses associated with the barren/urban areas include roads and areas associated with the active mining operation. The remainder of the PSA consists of a mix of desert scrub, juniper, mixed chaparral, montane chaparral, pinyon-juniper, desert wash, and desert riparian community types. The upland community designations were assigned utilizing the U.S. Forest Service (USFS) Pacific Southwest Region CALVEG Vegetation Classification and Mapping data (2013). The PSA overlaps two CALVEG zones: the South Coast (Zone 9) and the South Interior (Zone 8). ESRI ArcView geodatabase files for CALVEG mapping tiles that overlap the PSA were downloaded and utilized to generate **Figure 3.3-1a** and **Figure 3.3-1b**. Aquatic features (e.g., ephemeral dry wash and desert riparian habitat) within the “proposed White Knob quarry boundary” were mapped using the results of the jurisdictional delineation conducted by Tetra Tech, while the aquatic features associated with the haul road were mapped using the CDFW California Streams (CA\_Streams) data layer (Tetra Tech 2013). Each cover type is described below based on the data presented in the CDFW’s *A Guide to Wildlife Habitats of California* (2013b).

#### Urban/Barren (145.9 Acres)

The urban land use encompasses a small portion of the existing Omya processing plant, which is located at the beginning of the haul road and terminus of Crystal Creek Road. The barren habitat type is associated with lands impacted by mining within the PSA, including haul roads, boulder roll-down areas, overburden placement, and extraction. Barren habitat is characterized by the absence of vegetation with less than 2 percent total vegetative cover by herbaceous species and less than 10 percent cover by tree or shrub species.

Although barren habitat provides little to no vegetative support, several species may still utilize these areas, including bighorn sheep (*Ovis canadensis*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), raptors, raven (*Corvus corax*), rattlesnakes (*Crotalus* spp.), and other common associates of disturbed uses.

#### Desert Scrub (141.9 Acres)

Desert scrub is considered to be the most widespread habitat in California deserts and is generally found below 4,000 feet (1,212 meters) amsl. This community type typically has a low species diversity; however, common associates include catclaw acacia (*Acacia greggii*), desert agave (*Agave deserti*), coastal bladderpod (*Isomeris arborea*), white brittlebush (*Encelia farinosa*), burrobrush (*Ambrosia dumosa*), barrel cactus (*Ferocactus viridescens*), hedgehog cactus (*Echinocereus* spp.), branched pencil cholla (*Opuntia ramosissima*), teddybear cholla (*O. bigelovii*), Palmer's coldenia (*Tiquilia palmeri*), Wiggins croton (*Croton wigginsii*), desert globemallow (*Sphaeralcea ambigua*), jojoba (*Simmondsia chinensis*), littleleaf krameria (*Krameria erecta*), ocotillo (*Fouquieria splendens* ssp. *splendens*), beavertail pricklypear (*Opuntia basilaris*), rabbitbrush (*Chrysothamnus* spp.), desert sand verbena (*Abronia villosa*), desert senna (*Senna armata*), squaw waterweed (*Baccharis sergiloides*), Anderson's woldberry (*Lycium andersonii*), and Mojave yucca (*Yucca schidigera*). In addition, triangle evening primrose (*Oenothera elata*), galleta (*Pleuraphis jamesii*), big galleta (*Pleuraphis rigida*), and Spanish needle (*Palafoxia arida*) can be found in the herbaceous layer.

Standing water in winter and herbaceous growth in spring provide foraging opportunities for a variety of wildlife species. Reptiles and rodents are the more common taxa associated with this community; however, various other taxa also utilize desert scrub. Common associates include Couch's spadefoot toad (*Scaphiopus couchii*), desert tortoise (*Gopherus agassizii*), desert iguana (*Dipsosaurus dorsalis*), common kingsnake (*Lampropeltis getula*), black-throated sparrow (*Amphispiza billineata*), pocket mice, kangaroo rats (*Dipodomys merriami*), kit fox (*Vulpes macrotis*), coyote, and bobcat.

#### Mixed Chaparral (15.5 Acres)

Mixed chaparral occurs as a mosaic on low- to mid-elevation (<5,000 feet/1,515 meters amsl) steep slopes and ridges with thin, well-drained soils. This is typically a structurally homogenous brushland community dominated by shrubs with thick, stiff, waxy evergreen leaves. The shrub height and percent crown cover within the mixed chaparral community is dictated by the amount of time since the last burn, precipitation regime, aspect, and soil type. The post-fire early-successional stages of mixed chaparral are characterized by subshrubs, annuals, and perennial herbs. However, at maturity, this community is characterized by a dense, nearly impenetrable thicket with greater than 80 percent shrub cover.

Common associates include scrub oak (*Quercus berberidifolia*), chaparral oak (*Q. durata*), and several species of ceanothus (*Ceanothus* spp.) and manzanita (*Arctostaphylos* spp.). Shrub

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species typically found within mixed chaparral include chamise (*Adenostoma fasciculatum*), birch leaf mountain mahogany (*Cercocarpus betuloides*), silk-tassel (*Garrya* spp.), toyon (*Heteromeles arbutifolia*), yerba santa (*Eriodictyon* spp.), California buckeye (*Aesculus californica*), poison oak (*Toxicodendron diversilobum*), sumac (*Rhus* spp.), California buckthorn (*Rhamnus californica*), holly leaf cherry (*Prunus ilicifolia*), Montana chaparral pea (*Pickeringia montana*), and California fremontia (*Fremontodendron californicum*).

There are no wildlife species that are strictly restricted to mixed chaparral. Most species are associated with other shrub-dominated vegetative communities, including chamise-redshank chaparral, montane chaparral, coastal scrub, and sagebrush.

#### **Montane Chaparral (47.3 Acres)**

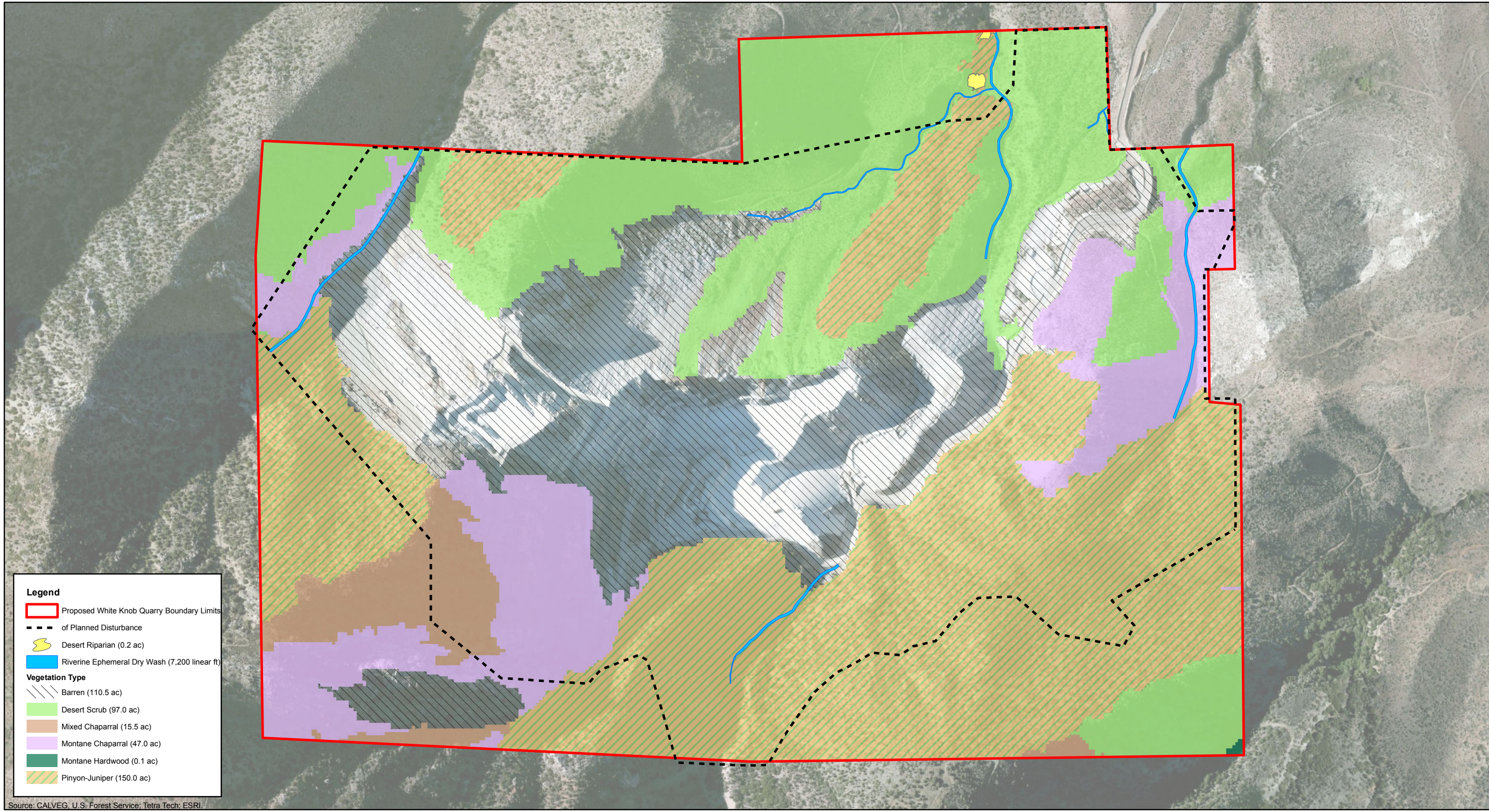
Montane chaparral varies in species composition with elevational, geographical, soil, and aspect changes. Most species associated with this community are fire adapted; therefore, chaparral is a secondary successional sequence following disturbance (e.g., logging, fire, erosion) in a variety of coniferous habitats. This community adjoins a variety of other habitat types, including montane riparian, mixed chaparral, and perennial grassland. One or more of the following species usually characterize montane chaparral communities: whitethorn ceanothus (*Ceanothus cordulatus*), snowbrush ceanothus (*C. velutinus*), greenleaf manzanita (*Arctostaphylos patula*), pinemat manzanita (*A. nevadensis*), hoary manzanita (*A. canescens*), bitter cherry (*Prunus emarginata*), huckleberry oak (*Quercus vacciniifolia*), sierra chinquapin (*Castanopsis sempervirens*), juneberry (*Amelanchier* sp.), Fremont silktassel (*Garrya fremontii*), Greene goldenweed (*Ericameria greenei*), mountain mahogany, toyon, sumac, and California buckthorn.

Numerous rodents, deer and other herbivores, and birds utilize montane chaparral habitats. This community provides foraging opportunities for small herbivores in the fall and winter when grasses are not abundant. In addition, rabbits and hares forage on twigs, evergreen leaves, and bark from chaparral plant species. Shrubs provide an important source of shade during hot weather, and moderate protection from high velocity wind events for many small mammal species. Lastly, this community provides seeds, fruits, insects, and protection from predators and climate, along with singing, roosting, and nesting sites for several bird species.

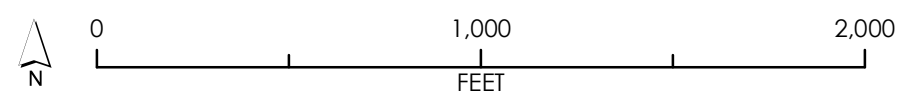
#### **Montane Hardwood (0.1 Acre)**

This community is characterized by a pronounced hardwood canopy, with a poorly developed shrub stratum and sparse herbaceous layer. In the Transverse and Peninsular ranges of Southern California, Jeffrey pine (*Pinus jeffreyi*), ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), incense-cedar (*Calocedrus decurrens*), California white fir (*Abies concolor*), bigcone Douglas fir (*Pseudotsuga macrocarpa*), California black oak (*Quercus kelloggii*), and Coulter pine (*Pinus coulteri*) are common in the overstory at middle to high elevations. At lower elevations, white alder (*Alnus rhombifolia*), coast live oak (*Quercus agrifolia*), bigleaf maple (*Acer macrophyllum*), California laurel (*Umbellularia californica*), bigcone Douglas fir, valley oak (*Quercus lobata*), foothill pine (*Pinus sabiniana*), and blue oak (*Quercus douglasii*) are common overstory species. Typical understory shrub species include manzanita (*Arctostaphylos* spp.), poison oak, coffeeberry (*Rhamnus californica*), currant (*Ribes viburnifolium*), and ceanothus.

Species that utilize acorns as a major food source such as western scrub jay (*Aphelocoma californica*) and Steller's jay (*Cyanocitta stelleri*), wild turkey (*Meleagris gallopavo*), mountain quail (*Oreortyx pictus*), band-tailed pigeon (*Patagioenas fasciata*), California ground squirrel

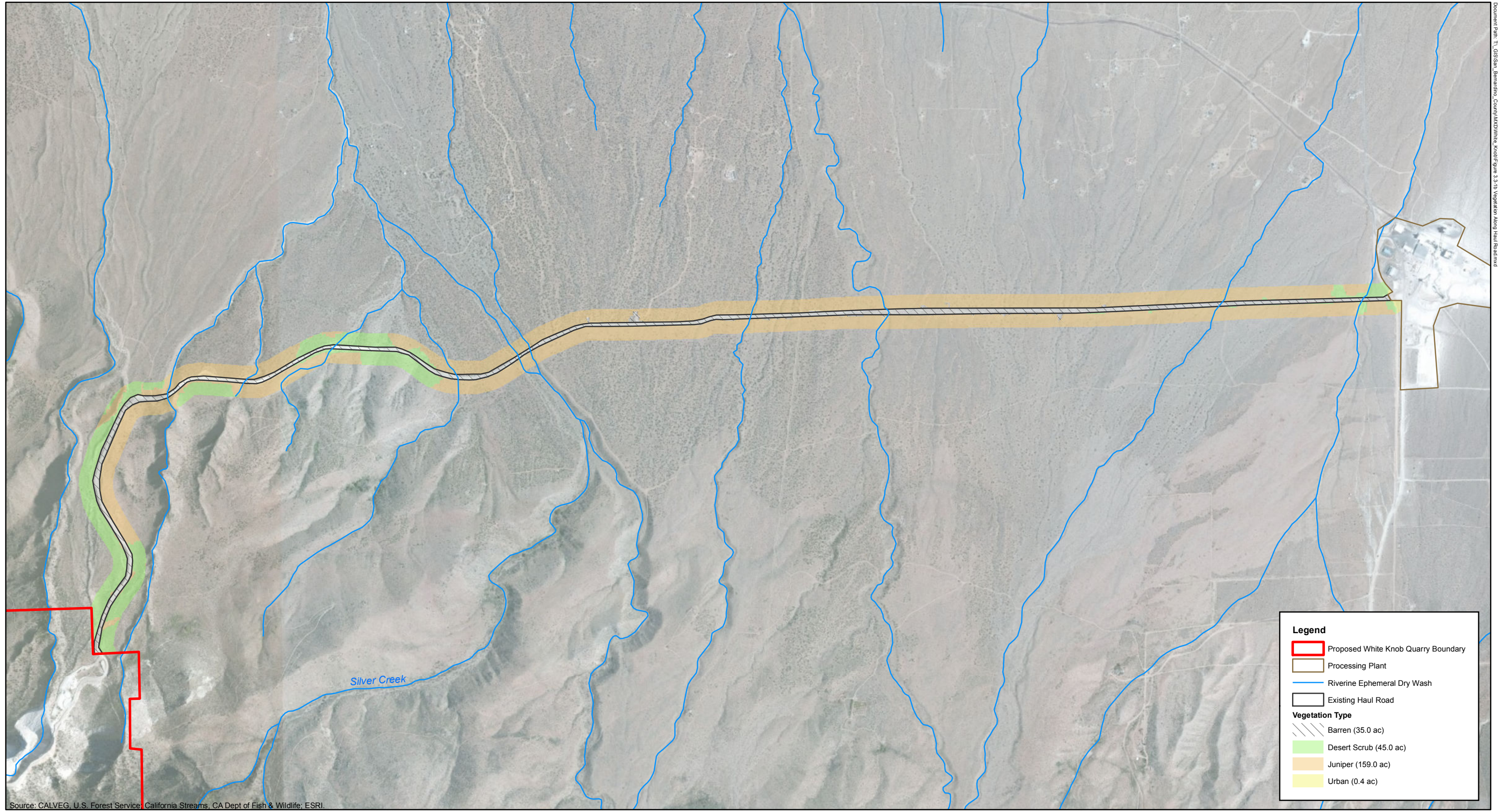


Source: CALVEG, U.S. Forest Service; Tetra Tech; ESRI.

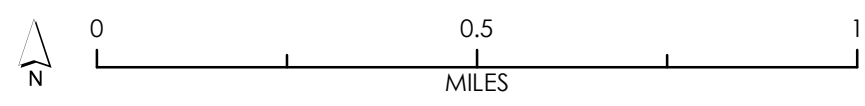


**Figure 3.3-1a**  
Vegetative Communities within the Proposed White Knob Quarry





Source: CALVEG, U.S. Forest Service, California Streams, CA Dept of Fish & Wildlife, ESRI.



**Figure 3.3-1b**  
Vegetative Communities within 200 feet of the Haul Road





(*Otospermophilus beecheyi*), dusky-footed woodrat (*Neotoma fuscipes*), black bear (*Ursus americanus*), and mule deer (*Odocoileus hemionus*) are commonly associated with montane hardwood habitats. In addition, several amphibians and reptiles can be found under woody debris and leaf litter including Mount Lyell salamander (*Hydromantes platycephalus*), ensatina (*Ensatina eschscholtzii*), relictual slender salamander (*Batrachoseps relictus*), western fence lizard (*Sceloporus occidentalis*), sagebrush lizard (*Sceloporus graciosus*), rubber boa (*Charina umbratica*), western rattlesnake (*Crotalus viridis*), California mountain kingsnake (*Lampropeltis zonata*), and sharp-tailed snake (*Contina tenuis*).

#### **Pinyon-Juniper (150.0 Acres)**

This habitat type occurs at middle elevations (4,000–8,000 feet/1,212–2,424 meters) and consists of open woodland of low, round-crowned, bushy trees that are needle-leaved, evergreen, and range from 30 feet to 50 feet in height. Pinyon-juniper habitats intergrade with a variety of other wildlife habitats including Joshua tree and desert scrub at lower elevations; eastside pine, perennial grass, and Jeffery pine at higher elevations; and sagebrush, mixed chaparral, and chamise-redshank chaparral along similar elevations. At mid to low elevations, the overstory typically comprises pure stands of either singleleaf (*Pinus monophylla*) or Parry (*Pinus quadrifolia*) pinyon pine, or pinyon mixed with juniper (*Juniperus* spp.), oaks (*Quercus* spp.), or Mojave yucca (*Yucca schidigera*). The understory is typically composed of immature California juniper (*Juniperus californica*) along with sagebrush (*Artemisia* spp.), blackbrush (*Coleogyne ramosissima*), common snakeweed (*Gutierrezia sarothrae*), narrowleaf goldenbush (*Ericameria linearifolia*), Parry nolina (*Nolina parryi*), curl-leaf mountain mahogany (*Cercocarpus ledifolius*), antelope bitterbrush (*Purshia tridentata*), Parry rabbitbrush (*Ericameria parryi*), chamise (*Adenostoma fasciculatum*), and redshank (*Adenostoma sparsifolium*). Common herbaceous associates include western wheatgrass (*Elymus spicatus*), blue grama (*Bouteloua gracilis*), and Indian ricegrass (*Achnatherum hymenoides*).

The pinyon mouse (*Peromyscus truei*), bushy-tailed woodrat (*Neotoma cinerea*), pinyon jay (*Gymnorhinus cyanocephalus*), plain titmouse (*Baeolophus inornatus*), and bushtit (*Psaltriparus minimus*) are characteristic of this community type. In addition, pinyon nuts and juniper berries are an important forage source for many wildlife species, which in turn act as dispersal agents for these plants.

#### **Juniper (159.0 Acres)**

This community is typically characterized by open to dense aggregations of California, Utah, or western junipers in the form of arborescent shrubs or small trees. Juniper habitats typically occur at middle elevations between Jeffrey pine and eastside pine communities at higher elevations, and sagebrush at lower elevations. Canopy species commonly associated with juniper habitats include white fir, Jeffrey pine, ponderosa pine, whitebark pine (*Pinus albicaulis*), and singleleaf pinyon pine. Shrub associates include antelope bitterbrush, California buckwheat (*Erigonum fasciculatum*), wax currant (*Ribes cereum*), gray horsebrush (*Tetradymia canescens*), green Mormon-tea (*Ephedra viridis*), curlleaf mountain mahogany, big sagebrush (*Artemisia tridentata*), and black sagebrush (*Artemisia nova*). Common forbs and grasses include Sandberg's bluegrass (*Poa secunda*), bighead clover (*Trifolium macrocephalum*), Idaho fescue (*Festuca idahoensis*), one-spike oatgrass (*Danthonia unispicata*), bottlebrush (*Callistemon* spp.), squirreltail (*Elymus elymoides*), and bluebunch wheatgrass (*Pseudoroegneria spicata*).

No species specifically rely on juniper habitats. However, juniper berries are an important food source for wintering birds, while the foliage is consumed by several mammal species.

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#### **Riverine-Ephemeral Dry Wash (7,200 Linear Feet)**

Riverine habitats are characterized by intermittent to continually flowing water. Streams typically originate at some elevated source, such as a spring or lake, and flow downhill at a rate relative to the slope or gradient and the volume of surface water runoff or discharge. Flow velocities generally decline as the stream descends in elevation, and the volume of water increases until the stream flattens out at lower elevations. The transition from a high-gradient, high-flow stream to a low-gradient, low-flow river results in increases in water temperature and turbidity, while dissolved oxygen decreases and the bed material transitions from rock to mud.

Ephemeral dry washes move water, nutrients, and sediment throughout the watershed. When functioning properly, they provide landscape-level hydrologic connections; stream energy dissipation during high flow events to reduce erosion and improve water quality; surface and subsurface water storage and exchange; groundwater recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; support for vegetative communities to stabilize stream banks; and water supply and water-quality filtering (Levick et al. 2008). In addition, these features provide a variety of ecological services for wildlife, including migration corridors, forage, cover, and nesting. Due to the higher moisture content, wildlife abundance and diversity in and/or near them is typically higher than in surrounding uplands (Levick et al. 2008).

#### **Desert Riparian (0.2 Acre)**

This community is characterized by dense groves of low, shrublike trees or tall shrubs, to woodlands of small to medium-sized trees. These habitats are found adjacent to permanent water (e.g., streams, springs) or in naturally subirrigated areas. Dominant canopy species within this community vary but may include tamarisk (*Tamarix parviflora*), velvet ash (*Fraxinus velutina*), mesquite (*Prosopis glandulosa* var. *torreyana*), screwbean mesquite (*Prosopis pubescens*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), and willows (*Salix* spp.). The subcanopy comprises smaller individuals of canopy species as well as quailbush (*Atriplex lentiformis* ssp. *breweri*), Mojave seablite (*Suaeda moquinii*), desert lavender (*Hyptis emoryi*), seep willow (*Baccharis salicifolia*), and arrowweed (*Pluchea sericea*).

This habitat within the PSA covers 0.2 acre along the northern boundary and is characterized by common rush (*Juncus effuses*), arroyo willow (*Salix laevigata*), red willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), interior live oak (*Quercus wislizeni*), Parish's umbrellawort (*Taushia parishii*), pinyon pine (*Pinus monophylla*), and penstemon (*Penstemon* sp.).

Desert riparian communities play an important role in desert wildlife populations and support more bird species than any other desert habitat, with the exception of some palm oasis habitats. The dense shrubs and permanent water provide food, cover, and water for additional wildlife species.

#### **SENSITIVE HABITATS**

Sensitive habitats included are those that are of special concern to resource agencies or those that are protected under the California Environmental Quality Act (CEQA), Section 1600 of the California Fish and Game Code (FGC), Sections 401 and 404 of the Clean Water Act (CWA), and/or were identified in the *Carbonate Habitat Management Strategy* (Olson 2003).

#### **Waters of the United States and/or State**

Jurisdictional waters of the State and United States along with isolated wetlands provide a variety of functions for plants and wildlife. Wetlands and other water features provide habitat, foraging, cover, and migration and movement corridors for both special-status and common species. In addition to habitat functions, these features provide physical conveyance of surface water flows capable of handling large stormwater events. Large storms can produce extreme flows that cause bank cutting and sedimentation of open waters and streams. Jurisdictional waters can slow these flows and lessen the effects of these large storm events, protecting habitat and other resources. A jurisdictional delineation was performed by Tetra Tech (2013) within the proposed White Knob quarry boundary (**EIR Appendix D**). Based on the data presented in this report, approximately 7,200 linear feet of ephemeral dry wash and 0.2 acre of desert riparian habitats occur within the PSA (**Figure 3.3-2**). The amount and location of jurisdictional features that have the potential to be affected by the proposed haul road improvements have not been formally delineated to date; however, data obtained from the CDFW indicates that at least 10 ephemeral dry washes intersect the haul road.

#### Waters of the United States

The U.S. Army Corps of Engineers (USACE) continues to assert jurisdiction over all waters that are in use, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which may be subject to the ebb and flow of the tide and are defined as traditional navigable waters (USACE 2007). Field observations and review of relevant aerial photographs and topographic maps confirm that the unnamed drainages within the PSA terminate in Rabbit Lake (dry) found to the north of the PSA. No connection to the Mojave River for the drainages associated with the PSA was observed. A recent approved jurisdictional determination (AJD) dated April 30, 2013, has been issued by the USACE for the Marathon Solar Project located southeast of the PSA, on the west side of Camp Rock Road, north of State Route 247 (USACE 2013). The drainages associated with this project terminate in Lucerne Lake (dry), which is east of Rabbit Lake. The AJD for the Marathon Solar Project concluded that the on-site drainages are isolated and are not subject to USACE regulation under Section 404. The Marathon Solar Project AJD indicates that Rabbit Lake and Lucerne Lake are part of the same depositional environment and are both located in the Lucerne Valley Groundwater Basin Este Subarea. Based on the AJD issued for the solar project, which shares the same watershed as the PSA drainages, it is likely that jurisdictional drainages within the PSA are isolated and not subject to USACE jurisdiction, however no specific determination has been made at this time by USACE.

#### Waters of the State

Under Section 401 of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Act, the Colorado River Regional Water Quality Control Board (RWQCB) asserts jurisdiction over jurisdictional wetlands and those non-isolated waters associated with traditional navigable waters. As the on-site drainages do not connect to the Mojave River, they are not subject to regulatory authority by the Colorado River RWQCB under Clean Water Act Section 401. The desert riparian wetland associated with Drainage C (**Figure 3.3-2**) meets the three-point federal criteria as a wetland and therefore may be subject to regulatory authority by the Colorado River RWQCB under the Porter-Cologne Act.

Under Section 1600 et seq. of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The ephemeral dry washes within the PSA that have

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definable bed-and-bank features or ordinary high water mark (OHWM) indicators would be subject to regulatory authority by the CDFW.

#### WILDLIFE MOVEMENT CORRIDORS

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres of undisturbed area. Maintaining the continuity of established wildlife corridors is important to (a) sustain species with specific foraging requirements, (b) preserve a species' distribution potential, and (c) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

Portions of the PSA have been disturbed by previous and ongoing mining operations; however, the undisturbed portions around the perimeter and off-site could facilitate regional wildlife movement. Available data on movement corridors and linkages was accessed via the CDFW BIOS 5 Viewer (2013c). Data reviewed included the Essential Connectivity Areas [ds623] layer and the Missing Linkages in California [ds420] layer. The PSA is located north of an Essential Connectivity Area and approximately 2.5 miles east of a linkage for bighorn sheep in the Missing Linkages layer. Omya reported no individuals have been documented on-site; however, there is the potential for this species to occur in the vicinity of the PSA.

In addition, the San Bernardino County General Plan Open Space Overlay Map was reviewed to determine whether the PSA was located in an identified wildlife corridor. The PSA is not located in an identified corridor; however, it is located east of the Deep Creek wildlife corridor, north of the Bear Creek corridor, and west of the Grapevine Creek corridor.

#### SPECIAL-STATUS SPECIES

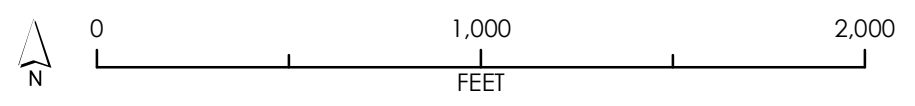
Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area, or across their native habitat. These species have been identified and assigned a status ranking by governmental agencies such as the CDFW, the USFWS, and private organizations such as the CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species' or population's persistence include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined by the following codes:

- Listed, proposed, or candidates for listing under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] 17.11 – listed; 61 Federal Register [FR] 7591, February 28, 1996 candidates)
- Listed or proposed for listing under the California Endangered Species Act (CESA) (FGC 1992 Section 2050 et seq.; 14 California Code of Regulations [CCR] Section 670.1 et seq.)
- Designated as Species of Special Concern by the CDFW
- Designated as Fully Protected by the CDFW (FGC Sections 3511, 4700, 5050, 5515)
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380) including CNPS List Rank 1b and 2

Location	Acreage (Inside PDL)	Length (Inside PDL)	Acreage (Outside PDL)	Length (Outside PDL)
A	0.38	1,379	--	--
B-1	0.176	1,309	0.057	259
B-2	0.216	942	0.09	245
C	0.216	1,354	--	--
D	0.324	1,175	0.102	231
E	0.043	310	--	--
Wetland	0.003	--	0.2	--
<b>Total</b>	<b>1.358</b>	<b>6,469</b>	<b>0.449</b>	<b>735</b>



Source: Tetra Tech; ESRI.



**Figure 3.3-2**  
Jurisdictional Delineation  
**PMC**



The results of the USFWS, CDFW, and CNPS database queries identified several special-status species with the potential to be impacted by project-related activities. **Table 3.3-1** provides a summary of all special-status species identified in the database results. All special-status plant species returned from the CNPS and USFWS IPaC query, as well as those returned from the 5-mile CNDDDB query, are analyzed in **Table 3.3-1**, as well as special-status wildlife species returned from the USFWS IPaC query and 10-mile CNDDDB query. **Table 3.3-1** also provides a description of the habitat requirements for each species and conclusions regarding the potential for each species to be impacted by project components. The CNDDDB results within 1 mile of the project are depicted on **Figure 3.3-3**. In addition, the query of the USFWS Critical Habitat Portal revealed that the PSA is not within any designated critical habitat; however, designated critical habitat for Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*) and Cushenbury oxytheca (*Oxytheca parishii* var. *goodmaniana*) does occur in proximity to the PSA (**Figure 3.3-4**).

The PSA is located on the north slope of the San Bernardino Mountains, which is characterized by steep slopes, rocky pinnacles, outcrops, rock crevices, rock ledges, cliff potholes, and cliffs. These habitat characteristics provide excellent nest sites for several cliff-nesting raptors, including owls, golden eagles, California condors, peregrine falcons, prairie falcons, and red-tailed hawks. In order to provide consistent objectives, management actions, processes, and management tools across the North Slope, the San Bernardino National Forest (SBNF) is in the process of developing a Raptor Conservation Strategy (RCS). A draft version of the RCS is provided in **EIR Appendix D**.

#### **Special-Status Plant Species**

Special-status plants that are state and/or federally listed or are found on CNPS List 1A (believed to be extinct); List 1B (rare, threatened, or endangered in California and elsewhere); or List 2 (rare, threatened, or endangered in California, but are more numerous elsewhere) are considered in this impact analysis. Based on these criteria and the database search results, 37 special-status plant species have the potential to occur in the PSA. Each special-status plant species that is considered in the impact analysis is described below based on the data obtained from the CNPS *Inventory of Rare, Threatened, and Endangered Plants of California* (2013).

##### Cushenbury Oxytheca (*Acanthoscyphus parishii* var. *goodmaniana*)

Cushenbury oxytheca is a San Bernardino County endemic, is federally listed as endangered, and has a CNPS rare plant rank of 1B.1. This species is an annual herb that blooms from May through October. It is typically found in pinyon and juniper woodlands at elevations ranging from 3,999 to 7,799 feet (1,219–2,377 meters) above mean sea level (amsl). Cushenbury oxytheca has a strong affinity for carbonate soils and is often found growing on either sand or talus. This species is threatened by carbonate mining, non-native plants, power line maintenance, and vehicles.

According to the CNDDDB, there are three occurrences of Cushenbury oxytheca within 1 mile of the PSA and nine records within 5 miles. In addition, this species was documented on-site by Scott White Biological Consulting (SWBC) in 2006; however, subsequent surveys conducted by Lilburn Corporation in 2012 did not document this species. Due to the presence of suitable habitat and previous occurrences on and in the immediate vicinity of the PSA, this species may occur within the PSA.

##### Cushenbury Milk-Vetch (*Astragalus albens*)

Cushenbury milk-vetch is endemic to San Bernardino County, is federally listed as endangered, and has a CNPS rare plant rank of 1B.1. This species is a perennial herb that blooms from March

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to June. It is typically found in Joshua tree woodlands, Mojavean desert scrub, and pinyon and juniper woodlands at elevations ranging from 3,593 to 6,562 feet (1,095–2,000 meters) amsl. It is usually found growing on carbonate and rarely on granitic substrate. This species is threatened by carbonate mining, energy development, grazing, road construction, and vehicles.

There are no records of Cushenbury milk-vetch within 1 mile of the PSA; however, there are three previous occurrences within 5 miles. Although this species was not observed during previous plant surveys, the presence of potential suitable habitat results in the potential for this species to occur within the PSA.

#### Big Bear Valley Milk-Vetch (*Astragalus lentiginosus* var. *sierrae*)

Big Bear Valley milk-vetch is a California endemic with a CNPS rare plant rank of 1B.2. It is not federally or state listed. This species is a perennial herb that blooms from April through August. It is typically found growing on gravelly or rocky soils in habitats such as Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, and upper montane coniferous forest. This species ranges from 5,905 to 8,530 feet (1,800–2,500 meters) amsl. Big Bear Valley milk-vetch is threatened by urbanization, illegal dumping, mining, road construction, vegetation and fuel management activities, road maintenance, and recreational activities.

There are two records of Big Bear Valley milk-vetch within 1 mile of the PSA and a total of ten occurrences within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Big Bear Valley Woollypod (*Astragalus leucolobus*)

Big Bear Valley woollypod is a California endemic and has a CNPS rare plant rank of 1B.2. This species has no federal or state listing. Big Bear Valley woollypod is a perennial herb that blooms between May and July. It typically grows on rocky substrates in pinyon and juniper woodlands, pebble plains, and upper and lower montane coniferous forests. This species ranges from 5,741 to 9,465 feet (1,750–2,885 meters) amsl and is threatened by development, recreational activities, and vehicles.

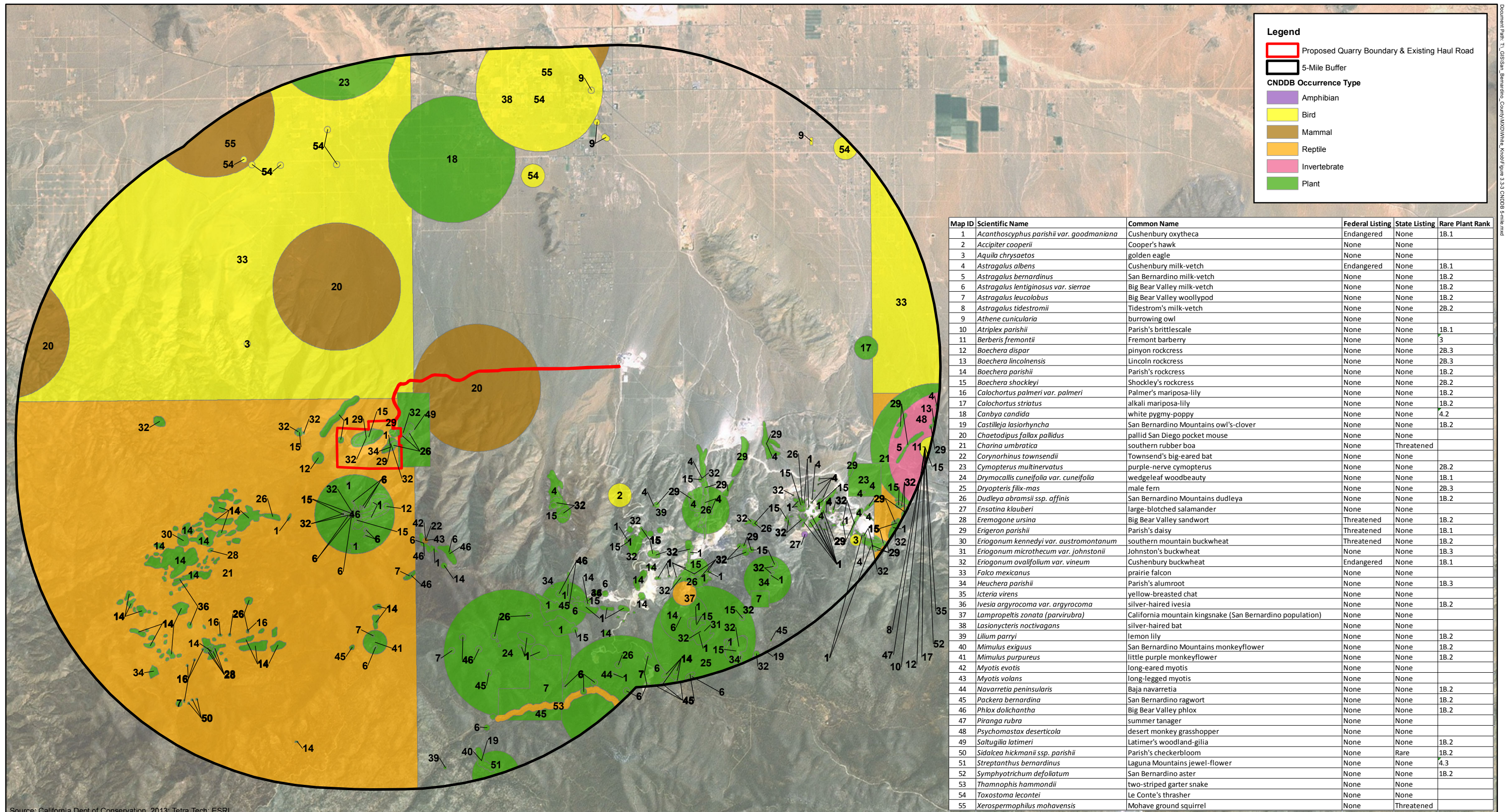
There are no records of Big Bear Valley woollypod within 1 mile of the PSA; however, there are six occurrences within 5 miles. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to presence of potential suitable habitat.

#### Tidestrom's Milk-Vetch (*Astragalus tidestromii*)

Tidestrom's milk-vetch is a perennial herb that can be found in both California and Nevada. In California, its distribution is limited to Inyo and San Bernardino counties. It has a CNPS rare plant rank of 2.2 and has no federal or state listing. This species blooms from April through July and ranges in elevation from 1,969 to 5,200 feet (600–1,585 meters) amsl. It is typically found growing on gravelly or sandy, carbonate substrate in Mojavean desert scrub. Tidestrom's milk-vetch is threatened by mining and solar energy development, and possibly by vehicles, road maintenance, and non-native plants.

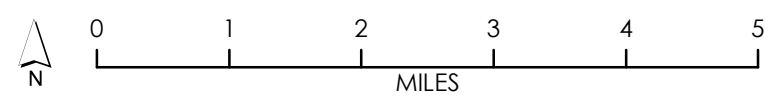
There is no record of Tidestrom's milk-vetch within 1 mile of the PSA, but there is one occurrence within 5 miles of the PSA. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.





Map ID	Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank
1	<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	Endangered	None	1B.1
2	<i>Accipiter cooperii</i>	Cooper's hawk	None	None	
3	<i>Aquila chrysaetos</i>	golden eagle	None	None	
4	<i>Astragalus albens</i>	Cushenbury milk-vetch	Endangered	None	1B.1
5	<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	None	None	1B.2
6	<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	None	None	1B.2
7	<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	None	None	1B.2
8	<i>Astragalus tidestromii</i>	Tidestrom's milk-vetch	None	None	2B.2
9	<i>Athene cunicularia</i>	burrowing owl	None	None	
10	<i>Atriplex parishii</i>	Parish's brittle-scale	None	None	1B.1
11	<i>Berberis fremontii</i>	Fremont barberry	None	None	3
12	<i>Boechea dispar</i>	pinyon rockcress	None	None	2B.3
13	<i>Boechea lincolnsensis</i>	Lincoln rockcress	None	None	2B.3
14	<i>Boechea parishii</i>	Parish's rockcress	None	None	1B.2
15	<i>Boechea shockleyi</i>	Shockley's rockcress	None	None	2B.2
16	<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	None	None	1B.2
17	<i>Calochortus striatus</i>	alkali mariposa-lily	None	None	1B.2
18	<i>Canbya candida</i>	white pygmy-poppy	None	None	4.2
19	<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None	None	1B.2
20	<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	None	None	
21	<i>Charina umbratica</i>	southern rubber boa	None	Threatened	
22	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	
23	<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	None	None	2B.2
24	<i>Dryocalis cuneifolia</i> var. <i>cuneifolia</i>	wedgeleaf woodbeauty	None	None	1B.1
25	<i>Dryopteris filix-mas</i>	male fern	None	None	2B.3
26	<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	None	None	1B.2
27	<i>Ensatina klauberi</i>	large-blotched salamander	None	None	
28	<i>Eremogone ursina</i>	Big Bear Valley sandwort	Threatened	None	1B.2
29	<i>Erigeron parishii</i>	Parish's daisy	Threatened	None	1B.1
30	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	Threatened	None	1B.2
31	<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	None	None	1B.3
32	<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	Endangered	None	1B.1
33	<i>Falco mexicanus</i>	prairie falcon	None	None	
34	<i>Heuchera parishii</i>	Parish's alumroot	None	None	1B.3
35	<i>Icteria virens</i>	yellow-breasted chat	None	None	
36	<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None	None	1B.2
37	<i>Lampropeltis zonata</i> (parvirubra)	California mountain kingsnake (San Bernardino population)	None	None	
38	<i>Lasionycteris noctivagans</i>	silver-haired bat	None	None	
39	<i>Lilium parryi</i>	lemon lily	None	None	1B.2
40	<i>Mimulus exiguus</i>	San Bernardino Mountains monkeyflower	None	None	1B.2
41	<i>Mimulus purpureus</i>	little purple monkeyflower	None	None	1B.2
42	<i>Myotis evotis</i>	long-eared myotis	None	None	
43	<i>Myotis volans</i>	long-legged myotis	None	None	
44	<i>Navarretia peninsularis</i>	Baja navarretia	None	None	1B.2
45	<i>Packera bernardina</i>	San Bernardino ragwort	None	None	1B.2
46	<i>Phlox dolichantha</i>	Big Bear Valley phlox	None	None	1B.2
47	<i>Piranga rubra</i>	summer tanager	None	None	
48	<i>Psychomastax deserticola</i>	desert monkey grasshopper	None	None	
49	<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	None	None	1B.2
50	<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	None	Rare	1B.2
51	<i>Streptanthus bernardinus</i>	Laguna Mountains jewel-flower	None	None	4.3
52	<i>Symphytotrichum defoliatum</i>	San Bernardino aster	None	None	1B.2
53	<i>Thamnophis hammondi</i>	two-striped garter snake	None	None	
54	<i>Toxostoma lecontei</i>	Le Conte's thrasher	None	None	
55	<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	None	Threatened	

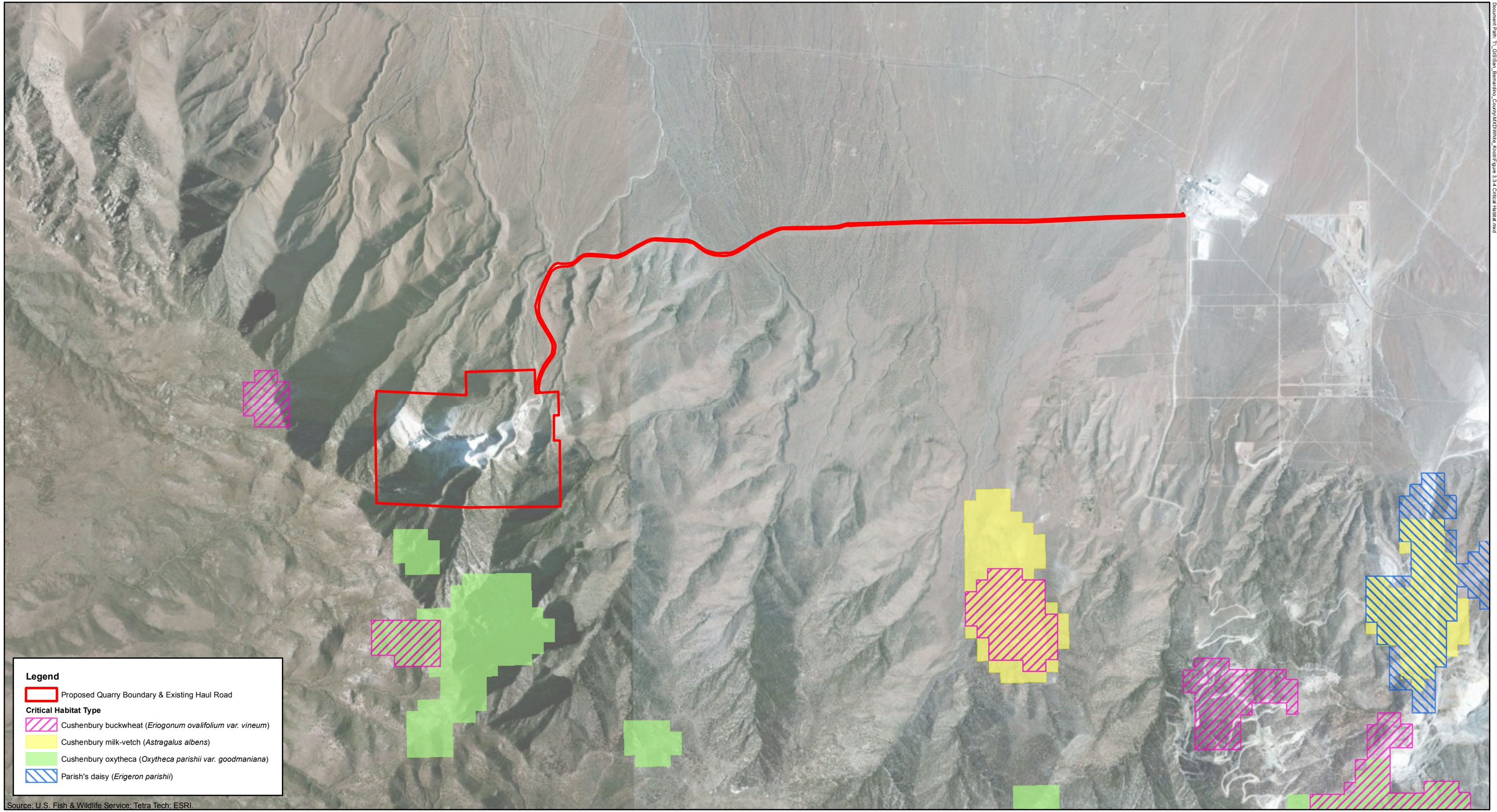
Source: California Dept of Conservation, 2013; Tetra Tech; ESRI.



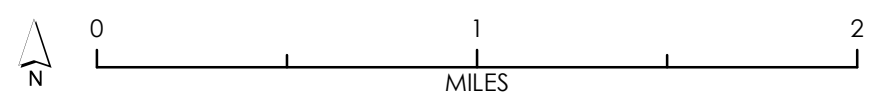
**Figure 3.3-3**  
CNDDDB Occurrences of Special-status Species within 5 Miles of the PSA

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Source: U.S. Fish & Wildlife Service; Tetra Tech; ESRI.



**Figure 3.3-4**

Critical Habitat in the Vicinity of the PSA



TABLE 3.3-1  
SPECIAL-STATUS SPECIES OCCURRENCE DATA

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<b>Plants</b>							
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	FE	–	1B.1	Grows on carbonate, sand, or tallus in pinyon and juniper woodland. Elev: 4,022–7,844 feet (1,219–2,377 m). Blooms: May–Oct (CNPS 2013).	P	May affect. Suitable habitat present and documented during previous surveys of the project area (SWBC 2007).
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE	–	1B.1	Usually grows on carbonate, rarely granitic, in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Elev: 3,613–6,600 feet (1,095–2,000 m). Blooms: Mar–June (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	–	–	1B.2	Gravelly or rocky areas in Mojavean desert scrub, meadows and seeps, pinyon and juniper woodlands, and upper montane coniferous forest. Elev: 5,940–8,580 feet (1,800–2,600 m). Blooms: Apr–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	–	–	1B.2	Rocky areas in pebble (pavement) plains, pinyon and juniper woodland, and upper and lower montane coniferous forests. Elev: 5,775–9,520 feet (1,750–2,885 m). Blooms: May–July (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Astragalus tidestromii</i>	Tidestrom's milk-vetch	–	–	2.2	Sandy or gravelly carbonate substrates in Mojavean desert scrub. Elev: 1,980–5,230 feet (600–1,585 m). Blooms: April–July (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Atriplex parishii</i>	Parish's brittlescale	–	–	1B.1	Alkaline areas in chenopod scrub, playas and vernal pools. Elev: 82–6,270 feet (25–1,900 m). Blooms: June–Oct (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Boechera dispar</i>	pinyon rockcress	–	–	2.3	Granitic and gravelly areas in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Elev: 3,960–8,382 feet (1,200–2,540 m). Blooms: Mar–June (CNPS 2013).	P	May affect. Suitable habitat present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Boecheera lincolnensis</i>	Lincoln rockcress	–	–	2.3	Carbonate soil in chenopod scrub and Mojavean desert scrub. Elev: 3,630–8,926 feet (1,100–2,705 m). Blooms: Mar–May (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Boecheera parishii</i>	Parish's rockcress	–	–	1B.2	Rocky areas, quartzite on clay, or sometimes carbonate, in pebble (pavement) plains, upper montane coniferous forests, and pinyon and juniper woodlands. Elev: 5,841–9,867 feet (1,770–2,990 m). Blooms: Apr–May (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Boecheera shockleyi</i>	Shockley's rockcress	–	–	2.2	Rocky or gravelly, carbonate or quartzite, in pinyon and juniper woodland. Elev: 2,887–7,623 feet (875–2,310 m). Blooms: May–June (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa lily	–	–	1B.2	Mesic areas in chaparral, lower montane coniferous forests, and meadows and seeps. Elev: 3,300–7,887 feet (1,000–2,390 m). Blooms: Apr–Jul (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Calochortus striatus</i>	alkali mariposa lily	–	–	1B.2	Alkaline, mesic areas in chaparral, chenopod scrub, Mojavean desert scrub, and meadows and seeps. Elev: 231–5,263 feet (70–1,595 m). Blooms: Apr–June (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Castilleja cinerea</i>	ash-gray paintbrush	FT	–	1B.2	Mojavean desert scrub, meadows and seeps, pebble (pavement) plain, pinyon and juniper woodland, and clay openings in upper montane coniferous forest. Elev: 5,940–9,768 feet (1,800–2,960 m). Blooms: June–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	–	–	1B.2	Mesic areas in chaparral, meadows and seeps, pebble (pavement) plains, riparian woodland, and upper montane coniferous forest. Elev: 5,280–7,887 feet (1,300–2,390 m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	–	–	2.2	Sandy or gravelly areas in Mojavean desert scrub, and pinyon and juniper woodland. Elev: 2,607–5,940 feet (790–1,800 m). Blooms: Mar–Apr (CNPS 2013).	P	May affect. Suitable habitat present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Drymocallis cuneifolia</i> var. <i>cuneifolia</i>	wedgeleaf woodbeauty	–	–	1B.1	Sometimes on carbonate in riparian scrub and upper montane coniferous forests. Elev: 5,940–7,309 feet (1,800–2,215 m). Blooms: June–Aug (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Dryopteris filix-mas</i>	male fern	–	–	2.3	Rocky granitic areas in upper montane coniferous forest. Elev: 7,920–10,230 feet (2,400–3,100 m). Blooms: Jul–Sep (CNPS 2013).	A	No effect. Suitable habitat not present. Project is below 6,500 feet (1,969 m) in elevation.
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	–	–	2.2	Granitic, quartzite or carbonate soils in pebble (pavement) plains, pinyon and juniper woodlands, and upper montane coniferous forests. Elev: 4,125–8,580 feet (1,250–2,600 m). Blooms: Apr–Jul (CNPS 2013).	P	May affect. Suitable habitat present and documented during previous surveys of the project area (SWBC 2007; Lilburn 2013).
<i>Elymus salina</i>	Salina Pass wild-rye	–	–	2.3	Rocky pinyon and juniper woodland. Elev: 4,455–7,045 feet (1,350–2,135 m). Blooms: May–Jun (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Eremogone ursina</i>	Big Bear Valley sandwort	FT	–	1B.2	Mesic, rocky areas in meadows and seeps, pebble (pavement) plains, and pinyon and juniper woodland. Elev: 5,940–9,570 feet (1,800–2,900 m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Erigeron parishii</i>	Parish's daisy	FT	–	1B.1	Usually carbonate, sometimes granitic soils in Mojavean desert scrub, and pinyon and juniper woodland. Elev: 2,640–6,600 feet (800–2,000 m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present and documented during previous surveys of the project area (SWBC 2007; Lilburn 2013).
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	–	–	1B.1	Sandy or gravelly substrate in chaparral, cismontane woodland, lower montane coniferous forest, and pinyon and juniper woodland. Elev: 3,630–7,342 feet (1,100–2,225 m). Blooms: Jul–Oct (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	FT	–	1B.2	Pebble (pavement) plains and gravelly lower montane coniferous forest. Elev: 5,841–9,537 feet (1,770–2,890 m). Blooms: June–Sep (CNPS 2013).	A	No effect. Suitable habitat not present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	–	–	1B.3	Rocky areas in subalpine coniferous forest and upper montane coniferous forest. Elev: 6,035–9,622 feet (1,829–2,926 m). Blooms: Jul–Sep (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	FE	–	1B.1	Carbonate soil in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Elev: 4,620–8,052 feet (1,400–2,440 m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present and documented during previous surveys of the project area (SWBC 2007; Lilburn 2013).
<i>Heuchera parishii</i>	Parish's alumroot	–	–	1B.3	Rocky areas, sometimes on carbonate, in alpine boulder and rock fields, subalpine coniferous forests, and upper and lower montane coniferous forests. Elev: 4,950–12,540 feet (1,500–3,800 m). Blooms: Jun–Aug (CNPS 2013).	P	May affect. Suitable habitat present and documented during previous surveys of the project area (SWBC 2007).
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	–	–	1B.2	Alkaline meadows and seeps, pebble (pavement) plains, and upper montane coniferous forests. Elev: 4,827–9,768 feet (1,463–2,960 m). Blooms: Jun–Aug (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Lilium parryi</i>	lemon lily	–	–	1B.2	Mesic areas in meadows and seeps, riparian forests, and upper and lower montane coniferous forests. Elev: 4,026–9,058 feet (1,220–2,745 m). Blooms: Jul–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Lewisia brachycalax</i>	short-sepaled lewisia	–	–	2.2	Mesic areas in lower montane coniferous forests, and meadows and seeps. Elev: 4,521–7,590 feet (1,370–2,300 m). Blooms: Feb–Jul (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Mimulus exiguus</i>	San Bernardino Mountains monkeyflower	–	–	1B.2	Mesic, clay soils in meadows and seeps, pebble (pavement) plains, and upper montane coniferous forests. Elev: 5,940–7,639 feet (1,800–2,315 m). Blooms: May–July (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Mimulus mohavensis</i>	Mojave monkeyflower	–	–	1B.2	Sandy or gravelly areas, often in washes, in Joshua tree woodland and Mojavean desert scrub. Elev: 1,980–3,960 feet (600–1,200 m). Blooms: Apr–June (CNPS 2013).	P	May affect. Suitable habitat present. Project at or above 3,894 feet (1,180 m) elevation.



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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Mimulus purpureus</i>	little purple monkeyflower	-	-	1B.2	Meadows and seeps, pebble (pavement) plains, and upper montane coniferous forests. Elev: 6,270–7,590 feet (1,900–2,300 m). Blooms: May–June (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Navarretia peninsularis</i>	Baja navarretia	-	-	1B.2	Mesic areas in chaparral openings, lower montane coniferous forests, meadows and seeps, and pinyon and juniper woodlands. Elev: 4,950–7,590 feet (1,500–2,300 m). Blooms: June–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Packera bernardina</i>	San Bernardino ragwort	-	-	1B.2	Pebble (pavement) plains, upper montane coniferous forests, and mesic, sometimes alkaline meadows and seeps. Elev: 5,940–7,590 feet (1,800–2,300 m). Blooms: May–July (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Perideridia parishii</i> ssp. <i>Parishii</i>	Parish's yampah	-	-	2.2	Meadows and seeps, and upper and lower montane coniferous forests. Elev: 4,834–9,900 feet (1,465–3,000 m). Blooms: Jun–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Phacelia parishii</i>	Parish's phacelia	-	-	1B.1	Clay or alkaline areas in Mojavean desert scrub and playas. Elev: 1,782–3,960 feet (540–1,200 m). Blooms: Apr–July (CNPS 2013).	A	No effect. Suitable soils not present.
<i>Phlox dolichantha</i>	Big Bear Valley phlox	-	-	1B.2	Pebble (pavement) plain and upper montane coniferous forests. Elev: 6,039–9,801 feet (1,830–2,970 m). Blooms: May–July (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountain bladderpod	FE	-	1B.1	Usually on carbonate in pinyon and juniper woodland, lower montane coniferous forests, and subalpine coniferous forests. Elev: 6,105–8,910 feet (1,850–2,700 m). Blooms: May–June (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Plagiobothrys parishii</i>	Parish's popcorn-flower	-	-	1B.1	Alkaline and mesic areas in Great Basin scrub and Joshua tree woodland. Elev: 2,475–4,620 feet (750–1,400 m). Blooms: Mar–Nov (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Poa atropurpurea</i>	San Bernardino bluegrass	FE	-	1B.2	Mesic meadows and seeps. Elev: 4,488–8,101 feet (1,360–2,455 m). Blooms: Apr–Aug (CNPS 2013).	p	May affect. Potential suitable habitat present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Puccinellia parishii</i>	Parish's alkali grass	–	–	1B.1	Alkaline springs and seeps in meadows and seeps. Elev: 2,310–3,300 feet (700–1,000 m). Blooms: Apr–May (CNPS 2013).	A	May affect. Suitable habitat present. Project at or above 1,180 m elevation.
<i>Pyrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrocoma	–	–	1B.2	Meadows and seeps, and pebble (pavement) plain. Elev: 5,280–7,590 feet (1,600–2,300 m). Blooms: Jul–Sep (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Saltugilia latimeri</i>	Latimer's woodland gilia	–	–	1B.2	Rocky or sandy, often granitic soils, sometimes in washes, in chaparral, Mojavean desert scrub, and pinyon and juniper woodland. Elev: 1,320–6,270 feet (400–1,900 m). Blooms: Mar–June (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	–	–	1B.2	Chaparral, cismontane woodland, and lower montane coniferous forest. Elev: 3,300–8,246 feet (1,000–2,499 m). Blooms: Jun–Aug (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	–	–	1B.2	Meadows and seeps, riparian woodland, and meadows and seeps in upper and lower montane coniferous forests. Elev: 4,933–8,860 feet (1,495–2,685 m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	–	–	2.2	Alkaline and mesic areas in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas. Elev: 49–5,049 feet (15–1,530 m). Blooms: Mar–June (CNPS 2013).	A	No effect. Suitable habitat not present.
<i>Sidalcea pedata</i>	bird-foot checkerbloom	FE	SE	1B.1	Mesic meadows and seeps, and pebble (pavement) plains. Elev: 5,280–8,250 feet (1,600–2,500 m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Streptanthus campestris</i>	southern jewel-flower	–	–	1B.3	Rocky areas in chaparral, lower montane coniferous forests, and pinyon and juniper woodland. Elev: 2,970–7,590 feet (900–2,300 m). Blooms: Apr–Jul (CNPS 2013).	P	May affect. Suitable habitat present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Symphotrichum defoliatum</i>	San Bernardino aster	–	–	1B.2	Near ditches, streams and springs, in cismontane woodland, coastal scrub, lower montane coniferous forests, meadows and seeps, marshes and swamps, and valley and foothill grasslands. Elev: 6–6,732 feet (2–2,040 m). Blooms: Jul–Nov (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Taraxacum californicum</i>	California dandelion	FE	–	1B.1	Mesic meadows and seeps. Elev: 5,346–9,240 feet (1,620–2,800m). Blooms: May–Aug (CNPS 2013).	P	May affect. Suitable habitat present.
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	FE	SE	1B.1	Mesic and alkaline meadows and seeps. Elev: 5,280–8,250 feet (1,600–2,500 m). Blooms: May–Sep (CNPS 2013).	A	No effect. Suitable habitat not present.
<b>Fish</b>							
<i>Gila orcuttii</i>	arroyo chub	–	SSC		Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita rivers, as well as Malibu and San Juan creeks. Has been extirpated from much of the native range, but introduced to streams along the coast and the Mojave River system, where they have eliminated the Mohave tui chub (UC Davis 2013).	A	No effect. Project outside species range.
<i>Siphateles bicolor mohavensis</i>	Mohave tui chub	FE	SE		Endemic to the Mojave River, but currently only exists at Soda Springs, China Lake Naval Air Weapons Station, Lark Seep, and Camp Cady (USFWS 2009a).	A	No effect. Project outside species range.
<b>Amphibians</b>							
<i>Anaxyrus californicus</i>	arroyo toad	FE	SSC		Breeding habitat = slow moving streams with shallow pools, nearby sandbars and adjacent stream terraces. Often breed in shallow, sandy pools bordered by sand/gravel flood terraces. Inhabit upland habitats when not breeding, such as sycamore-cottonwood woodlands, oak woodlands, coastal sage scrub, chaparral and grassland (USFWS 2009b).	A	No effect. Suitable habitat not present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Ensatina klauberi</i>	large-blotched salamander	–	SSC		Oak woodland, pine woodland, coniferous forests, and shrublands from 1,700 to 5,400 feet (515–1,636 m). Woody debris is a key habitat component (Jennings and Hayes 1994).	A	No effect. Suitable habitat not present.
<i>Rana draytonii</i>	California red-legged frog	FT	SSC		Requires aquatic habitat to breed, either natural or artificial, such as stock ponds (USFWS 2002a). Ponds/streams in humid forests, woodlands, grasslands, coastal scrub, and streambanks with plant cover in lowlands or foothills. Breeding habitat = permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for aestivation when the wetlands are dry. From sea level to 5,003 feet (0–1,516 m) (Nafis 2013).	A	No effect. Suitable habitat not present.
<i>Rana muscosa</i>	Sierra Madre yellow-legged frog	FE	SCE		Streams in ponderosa pine, montane hardwood-conifer, and montane riparian habitats (CDFW 2013d).	A	No effect. Suitable habitat not present.
<b>Reptiles</b>							
<i>Charina umbratica</i>	southern rubber boa	–	ST		Inhabit oak-conifer and mixed-conifer forests from 5,000 to 8,200 feet (1,515–2,484 m) where rocks and logs or other debris provide shelter (Nafis 2013).	A	No effect. Suitable habitat not present.
<i>Gopherus agassizii</i>	desert tortoise	FT	ST		Occur most commonly on gently sloping terrain with sandy-gravel soils and where there is sparse cover of low-growing shrubs, which allows establishment of herbaceous plants. Use burrows, caves, rock and caliche crevices, or overhangs for cover during winter (USFWS 2011).	P	May affect. Suitable habitat present.
<i>Lampropeltis zonata (parvirubra)</i>	California mountain kingsnake (San Bernadino population)	–	SSC		Found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub between 804 and 9,022 feet (243–2,733 m) (Nafis 2013).	A	No effect. Suitable habitat not present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Phrynosoma blainvillii</i>	coast horned lizard	-	SSC		Occurs in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grassland habitats. Inhabits open country such as sandy areas, washes, floodplains, and wind-blown deposits. Found mainly below 3,000 feet (909 m) in Southern California mountains, but can range up to 6,000 feet (1,818 m) (CDFW 2013d).	P	May affect. Suitable habitat present.
<i>Thamnophis hammondi</i>	two-striped garter snake	-	SSC		Found in wet forests, oak forests, chaparral and rolling grasslands. In Southern California, drier chaparral, oak woodland, and grassland are used (Nafis 2013).	A	No effect. Suitable habitat not present.
<b>Birds</b>							
<i>Aquila chrysaetos</i>	golden eagle	-	FP		Rolling hills and mountain terrain, desert, sage-juniper flats, wide arid plateaus deeply cut by streams and canyons, open mountain slopes and cliffs and rock outcrops. Nests on cliffs of all heights and in large trees in open areas. Ranges from sea level to 12,575 feet (3,810 m) (CDFW 2013d).	P	May affect. Suitable habitat present.
<i>Athene cunicularia</i>	burrowing owl	-	SSC		Open areas with mammal burrows. Habitats include dry open rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and edges of human disturbed lands. Inhabit golf courses, airports, cemeteries, vacant lots, and road embankments, with friable soils (Bates 2006).	P	May affect. Suitable habitat present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE	SE		Breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes (e.g., reservoirs). Most of these habitats are classified as forested wetlands or scrub-shrub wetlands. Habitat requirements for wintering are not well known, but include brushy savanna edges, second growth, shrubby clearings and pastures, and woodlands near water (USFWS 2002b).	A	No effect. Suitable habitat not present.
<i>Haliaeetus leucocephalus</i>	bald eagle	FD	FP		Nests in large, old-growth, or dominant live tree with open branchwork, especially ponderosa pine. Requires large bodies of water or rivers with abundant fish, and adjacent snags (CDFW 2013d).	A	No effect. Suitable habitat not present.
<i>Icteria virens</i>	yellow-breasted chat	-	SSC		Nest in early-successional riparian habitats with a well-developed shrub layer and an open canopy. Restricted to narrow border of streams, creeks, sloughs and rivers. Often nest in dense thicket plants such as blackberry and willow (Shuford and Gardali 2008).	A	No effect. Suitable habitat not present.
<i>Piranga rubra</i>	summer tanager	-	SSC		Breed primarily in mature riparian woodland with extensive cottonwood canopy, some records of orchard nesting. Need tall, shady trees (Shuford 2008).	A	No effect. Suitable habitat not present.
<i>Toxostoma lecontei</i>	Le Conte's thrasher	-	SSC		Occurs primarily in open desert wash, desert scrub, alkali scrub, and desert succulent shrub habitats, also in Joshua tree habitat with scattered shrubs. Commonly nests in dense, spiny shrubs or cacti (CDFW 2013d).	P	May affect. Suitable habitat present.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE	SE		Obligate riparian breeder, preferring structurally diverse riparian woodlands with a dense understory. Community structures typically utilized include cottonwood-willow woodlands, oak woodlands, and mule fat scrub (Kus 2002).	A	No effect. Suitable habitat not present.

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Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/Absent	Rationale
<b>Mammals</b>							
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	–	SSC		Sandy herbaceous areas, usually in association with rocks or coarse gravel. Elev: 0–5,906 feet (0–1,789 m) (CDFW 2013d).	P	May affect. Potential suitable habitat present.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	–	SSC		Cave-dwelling, also roosts in old mine-workings, occasionally found in buildings. Population concentrations in areas with cavity-forming rock and in old mining districts (Bolster 1998).	P	May affect. Potential suitable habitat present.
<i>Eumops perotis californicus</i>	western mastiff bat	–	SSC		Open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas. Roosts in crevices on vertical cliff faces, high buildings, trees, and tunnels (CDFW 2013d).	P	May affect. Potential suitable habitat present.
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel	–	SSC		Variety of coniferous and deciduous forests, including riparian forest. Found between 3,960 and 8,250 feet (1,200–2,500 m). Distribution fragmented by natural variation in vegetative cover, a preference for high elevation habitats, and barriers such as forest cover loss (Bolster 1998).	A	No effect. Suitable habitat not present.
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	–	ST		Optimal habitats are open desert scrub, alkali desert scrub, and Joshua tree. Prefers sandy to gravelly soils, avoids rocky areas. Elev: 1,657–5,003 feet (502–1,516 m) (CDFW 2013d).	A	No effect. Outside species range ( <b>Figure 3.3-6</b> ).

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<b>Key</b>	
<b>Federal &amp; State Status</b>	<b>CNPS Rare Plant Rank</b>
(FE) Federal Endangered	<i>Rareness Ranks</i>
(FT) Federal Threatened	(1A) Presumed Extinct in California
(FC) Federal Candidate	(1B) Rare, Threatened, or Endangered in California and Elsewhere
(FD) Federally Delisted	(2) Rare, Threatened, or Endangered in California, but More Common Elsewhere
(SE) State Endangered	(3) More Species Information Needed
(ST) State Threatened	(4) Limited Distribution
(SSC) State Species of Special Concern	<i>Threat Ranks</i>
(SCT) State Candidate Threatened	(0.1) Seriously threatened in California
(FP) Fully Protected	(0.2) Fairly threatened in California
	(0.3) Not very threatened in California



#### Pinyon Rockcress (*Boecheera dispar*)

Pinyon rockcress is a perennial herb that can be found in both California and Nevada. It has a CNPS rare plant rank of 2.3 and has no federal or state listing. This species blooms from March to June and ranges in elevation from 3,937 to 8,333 feet (1,200–2,540 meters) amsl. It is typically found growing on granitic, gravelly substrate in habitats such as Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Pinyon rockcress is threatened by mining, non-native plants, recreational activities, road construction, and vehicles.

There are two records of pinyon rockcress within 1 mile of the PSA, and no additional occurrences when the radius is increased to 5 miles. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Lincoln Rockcress (*Boecheera lincolnensis*)

Lincoln rockcress is a perennial herb that can be found in California, Nevada, and Utah. In California, its distribution is limited to Inyo, Los Angeles, Riverside, and San Bernardino counties. It has a CNPS rare plant rank of 2.3 and has no federal or state listing. This species blooms from March to May and ranges in elevation from 3,609 to 8,875 feet (1,100–2,705 meters) amsl. It is typically found growing on carbonate substrate in Mojavean desert scrub and chenopod scrub. Lincoln rockcress hybridizes with perennial rockcress (*B. perennans*) and reflexed rockcress (*B. retrofracta*).

In California, this species is known from less than 20 occurrences, many of them dating more than 20 years ago. There is no record of Lincoln rockcress within 1 mile of the PSA, but there is one occurrence within 5 miles of the PSA. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Parish's Rockcress (*Boecheera parishii*)

Parish's rockcress is a San Bernardino County endemic and has a CNPS rare plant rank of 1B.2. This species has no federal or state listing. Parish's rockcress is a perennial herb that blooms between April and May. It is often associated with rocky substrates consisting of quartzite on clay or sometimes carbonate. This species is known only from the San Bernardino Mountains and grows at elevations ranging from 5,807 to 9,810 feet (1,770–2,990 meters) amsl. It can be found growing in pinyon and juniper woodlands, pebble plains, and upper montane coniferous forests. Parish's rockcress is threatened by vehicles, carbonate mining, development, grazing, trampling, non-native plants, road construction, and possibly by illegal dumping.

There are no records of Parish's rockcress within 1 mile of the PSA; however, there are eight previous occurrences within 5 miles of the PSA. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Shockley's Rockcress (*Boecheera shockleyi*)

Shockley's rockcress is a perennial herb that can be found in pinyon and juniper woodland habitats in California, Nevada, and Utah. It has a CNPS rare plant rank of 2.2 and has no federal or state listing. This species blooms from May through June and is found at elevations ranging from 2,871 to 7,579 feet (875–2,310 meters) amsl. Shockley's rockcress is associated with

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carbonate and quartzite substrates in rocky and gravelly areas. This species is threatened by mining and vehicles.

There are three records of Shockley's rockcress within 1 mile of the PSA and nine total occurrences within a 5-mile radius of the PSA. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to the presence of potential suitable soils and habitat.

#### Palmer's Mariposa Lily (*Calochortus palmeri* var. *palmeri*)

Palmer's mariposa lily is a California endemic with a CNPS rare plant rank of 1B.2. It is not federally or state listed. This species is a perennial bulbiferous herb that blooms from April through July. It is typically found growing in mesic areas in habitats such as chaparral, lower montane coniferous forests, and meadows and seeps. This species ranges from 3,281 to 7,841 feet (1,000–2,390 meters) amsl. Palmer's mariposa lily is threatened by development, grazing, non-native plants, recreational activities, and vehicles.

There is no record of Palmer's mariposa lily within 1 mile of the PSA, but there are four occurrences within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Alkali Mariposa Lily (*Calochortus striatus*)

Alkali mariposa lily is not state or federally listed, but it does have a CNPS 1B.2 rare plant rank. This species is a perennial bulbiferous herb that blooms from April to June and occurs between 231 and 5,260 feet (70–1595 meters) amsl. Alkali mariposa lily is typically associated with mesic, alkaline soils of chaparral, chenopod scrub, Mojavean desert scrub, and meadows and seeps. This species is threatened by urbanization, grazing, trampling, road construction, hydrological alterations, and water diversions that cause dewatering.

There are no records of this species within 1 mile of the PSA; however, two records were identified within the 5-mile CNDDDB query. This species was not observed during previous surveys; however, due to the presence of potentially suitable habitat, this species may occur within the PSA.

#### Ash-Gray Paintbrush (*Castilleja cinerea*)

Ash-gray paintbrush is a federally threatened San Bernardino County endemic species. It has no state listing, but has a CNPS rare plant rank of 1B.2. Ash-gray paintbrush is a hemiparasitic perennial herb. Host plant species parasitized by ash-gray paintbrush include buckwheat (*Eriogonum* sp.) and sagebrush (*Artemisia* sp.) (USDA 2013). Ash-gray paintbrush blooms from June through August and is found at elevations ranging from 5,906 to 9,711 feet (1,800–2,960 meters) amsl. Ash-gray paintbrush can be found in a variety of habitats, including Mojavean desert scrub, meadows and seeps, pebble plains, pinyon and juniper woodlands, and clay openings in upper montane coniferous forests. This species is threatened by vehicles, development, logging, non-native plants, vegetation and fuels management, mining, recreational activities, road maintenance, and grazing.

There are no records of this species within a 5-mile radius of the PSA, nor was this species observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

### San Bernardino Mountains Owl's-Clover (*Castilleja lasiorhyncha*)

San Bernardino Mountains owl's-clover is a California endemic with a CNPS rare plant rank of 1B.2. It is not federally or state listed. This species is a hemiparasitic annual herb that blooms from May through August. It is typically found growing in mesic areas in a variety of habitats, including chaparral, meadows and seeps, pebble plains, riparian woodlands, and upper montane coniferous forest. This species ranges from 4,265 to 7,841 feet (1,300–2,390 meters) amsl. This owl's-clover is threatened by urbanization, illegal dumping, mining, road construction, vegetation and fuel management activities, road maintenance, and recreational activities.

There are no records of San Bernardino Mountains owl's-clover within 1 mile of the PSA; however, there is one occurrence within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

### Purple-Nerve Cymopterus (*Cymopterus multinervatus*)

Purple-nerve cymopterus is a perennial herb that can be found in many states throughout the southwest United States and into Baja California. It has a CNPS rare plant rank of 2.2 and no federal or state listing. This species bloom from March to April and can be found at elevations ranging from 2,592 to 5,906 feet (790–1,800 meters) amsl. Purple-nerve cymopterus grows on sandy or gravelly substrates in Mojavean desert scrub and pinyon and juniper woodland. This species is threatened by vehicles and possibly threatened by solar energy development and non-native plants.

There are no records of this species within a 5-mile radius of the PSA, nor was this species observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

### San Bernardino Mountains Dudleya (*Dudleya abramsii* ssp. *affinis*)

San Bernardino Mountains dudleya is endemic to San Bernardino County. It has a CNPS rare plant rank of 1B.2 and no state or federal listing. This species is a perennial herb that blooms from April to July. It is typically found in upper montane coniferous forests, pebble plains, and pinyon and juniper woodlands at elevation ranging from 4,101 to 8,530 feet (1,250–2,600 meters) amsl. It is usually found growing on carbonate, granitic, or quartzite substrates. This species is threatened by development, foot traffic, limestone mining, and vehicles, and possibly threatened by non-native plants and illegal dumping.

There is one record of San Bernardino Mountains dudleya within 1 mile of the PSA. In addition, there are nine occurrences within 5 miles of the PSA. In addition, this species was previously documented by SWBC in 2006 and again by Lilburn Corporation in 2012; therefore, this species is likely to occur within the PSA.

### Salina Pass Wild-Rye (*Elymus salina*)

Salina Pass wild-rye is a perennial rhizomatous herb that can be found in California, Arizona, Idaho, and Wyoming. In California, it is only known to occur in Inyo and San Bernardino counties. This species has a CNPS rare plant rank of 2.3 and has no federal or state listing. It blooms from May to June and ranges in elevation from 4,429 to 7,005 feet (1,350–2,135 meters). It is typically found growing on rocky areas in pinyon and juniper woodland.

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There are no records of this species within a 5-mile radius of the PSA, nor was this species observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Big Bear Valley Sandwort (*Eremogone ursine*)

Big Bear Valley sandwort is a federally threatened San Bernardino County endemic species. It has no state listing, but has a CNPS rare plant rank of 1B.2. Big Bear Valley sandwort is a perennial herb that blooms from May through August and is found at elevations ranging from 5,906 to 9,514 feet (1,800–2,900 meters) amsl. San Bernardino Valley sandwort is known only from the vicinity of Big Bear and Baldwin lakes. This species can be found growing in mesic, rocky areas in a variety of habitats, including meadows and seeps, pebble plains, and pinyon and juniper woodlands. This species is threatened by vehicles, development, grazing, foot traffic, road maintenance, mining, illegal dumping, recreational activities, fire suppression activities, and trampling.

There are no records of Big Bear Valley sandwort within 1 mile of the PSA; however, there are two occurrences within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Parish's Daisy (*Erigeron parishii*)

Parish's daisy is a federally threatened California endemic that can be found in Riverside and San Bernardino counties. It has no state listing, but has a CNPS rare plant rank of 1B.1. This species is a perennial herb that blooms from May through August and is found at elevations ranging from 2,625 to 6,562 feet (800–2,000 meters) amsl. This species is associated with carbonate and sometimes granitic substrates. It can be found in Mojavean desert scrub and pinyon and juniper woodlands. This species is threatened by carbonate mining, vehicles, road construction, and residential development.

There is one record of Parish's daisy within 1 mile of the PSA and three occurrences within a 5-mile radius of the PSA. In addition, this species was previously documented on the project site by SWBC in 2006 and again by Lilburn Corporation in 2012.

#### Vanishing Wild Buckwheat (*Eriogonum evanidum*)

Vanishing wild buckwheat is an annual herb found in California and Baja California. This species has a CNPS rare plant rank of 1B.1, but has no federal or state listing. It blooms from July to October and ranges in elevation from 3,609 to 7,300 feet (1,100–2,225 meters). It is typically found growing on sandy or gravelly substrates in a variety of habitats, including chaparral, cismontane woodland, lower montane coniferous forest, and pinyon and juniper woodland. This species is threatened by development, foot traffic, grazing, recreational activities, and vehicles, and possibly by alteration of fire regimes and non-native plants.

There are no records of this species within a 5-mile radius of the PSA, nor was this species observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Cushenbury Buckwheat (*Eriogonum ovalifolium* var. *vineum*)

Cushenbury buckwheat is a federally endangered San Bernardino County endemic species. It has not state listed, but has a CNPS rare plant rank of 1B.1. This species is a perennial herb that

blooms from May through August and is found at elevations ranging from 4,593 to 8,005 feet (1,400–2,440 meters) amsl. This species is associated with carbonate substrate and can be found in Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodlands. This species is threatened by mining, vehicles, and road construction.

There are three records of Cushenbury buckwheat within 1 mile of the PSA and eight occurrences within a 5-mile radius of the PSA. In addition, this species was previously documented by SWBC in 2006 and again by Lilburn Corporation in 2012.

#### Parish's Alumroot (*Heuchera parishii*)

Parish's alumroot is a California endemic with a CNPS rare plant rank of 1B.3. It is not federally or state listed. This species is a perennial rhizomatous herb that blooms from June through August. It is typically found growing rocky, sometimes carbonate, substrate. Parish's alumroot grows in a variety of habitats, including alpine boulder and rock fields, subalpine coniferous forests, and upper and lower montane coniferous forests. This species ranges from 4,921 to 12,467 feet (1,500–3,800 meters) amsl. Parish's alumroot is possibly threatened by recreational activities and mining.

There is one record of Parish's alumroot within 1 mile of the PSA and four occurrences within a 5-mile radius of the PSA. In addition, this species was documented on-site by SWBC in 2006; however, subsequent surveys conducted by Lilburn Corporation in 2012 did not document this species. Due to the presence of suitable habitat and previous occurrences on and in the immediate vicinity of the PSA, this species may occur within the PSA.

#### Lemon Lily (*Lilium parryi*)

Lemon lily is a perennial bulbiferous herb found in California, Arizona, and Sonora, Mexico. This species has a CNPS rare plant rank of 1B.2, but has no federal or state listing. It blooms from July to August and ranges in elevation from 4,003 to 9,006 feet (1,220–2,745 meters) amsl. It is typically found growing in mesic areas in habitats such as meadows and seeps, riparian forests, and upper and lower montane coniferous forests. This species is threatened by horticultural collecting, water diversion, recreational activities, and grazing.

There are no records of lemon lily within 1 mile of the PSA; however, there are two occurrences within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Short-Sepaled Lewisia (*Lewisia brachycalyx*)

Short-sepaled lewisia is a perennial herb that can be found in many states throughout the southwest United States and into Baja California. In California, its distribution is limited to San Bernardino and San Diego counties. Short-sepaled lewisia has a CNPS rare plant rank of 2.2 and no federal or state listing. This species blooms from February through July and can be found at elevations ranging from 4,495 to 7,546 feet (1,370–2,300 meters) amsl. Short-sepaled lewisia grows in mesic areas in lower montane coniferous forest and in meadows and seeps. This species is threatened by vehicles and recreational activities.

There are no records of this species within a 5-mile radius of the PSA, nor was this species observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

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#### San Bernardino Mountains Monkeyflower (*Mimulus exiguus*)

San Bernardino Mountains monkeyflower is an annual herb that can be found in California and Baja California. In California, its distribution is limited to San Bernardino County. It has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from May through July and can be found at elevations ranging from 5,906 to 7,595 feet (1,800–2,315 meters) amsl. This species grows in clay soils in mesic areas in upper montane coniferous forest, pebble plains, and meadows and seeps. This species is threatened by development, mining, recreational activities, and vehicles.

There is no record of this species within 1 mile of the PSA, but there is one occurrence within 5 miles of the PSA. This species was not observed during previous plant surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Mojave Monkeyflower (*Mimulus mohavensis*)

Mojave monkeyflower is an annual herb endemic to San Bernardino County. It has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from April to June and can be found at elevations ranging from 1,969 to 3,937 feet (600–1,200 meters) amsl. Mojave monkeyflower grows on sandy or gravelly substrates, often in washes. It can be found in Joshua tree woodland and Mojavean desert scrub. This species is threatened by development, mining, non-native plants, solar and wind energy projects, and vehicles.

There are no records of this species within a 5-mile radius of the PSA; however, this species was returned in the CNPS query, and suitable habitat is present within the PSA.

#### Little Purple Monkeyflower (*Mimulus purpureus*)

Little purple monkeyflower is an annual herb found in California and Baja California. In California, its distribution is limited to San Bernardino and Riverside counties. Little purple monkeyflower has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from May to June and can be found at elevations ranging from 6,234 to 7,546 feet (1,900–2,300 meters) amsl. Little purple monkeyflower can be found growing in meadows and seeps, pebble plains, and upper montane coniferous forests. This species is threatened by development, mining, recreational activities, vegetation and fuel management, and vehicles.

Little purple monkeyflower is known in California from approximately 20 occurrences; one of these is within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Baja Navarretia (*Navarretia peninsularis*)

Baja navarretia is an annual herb found in California and Baja California. It has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from June to August and can be found at elevations ranging from 4,921 to 7,546 feet (1,500–2,300 meters) amsl. Baja navarretia can be found growing in mesic areas in meadows and seeps, openings in chaparral, lower montane coniferous forests, and pinyon and juniper woodlands. This species is threatened by gold panning and vehicles.

There is one record of Baja navarretia within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Parish's Yampah (*Perideridia parishii* ssp. *parishii*)

Parish's yampah has a CNPS rare plant rank of 2.B.2. This is a perennial herb that blooms from June to August and can be found at elevations ranging from 4,834 to 9,900 feet (1,465–3,000 meters) amsl. Parish's yampah is typically associated with lower montane coniferous forests, meadows, seeps, and upper montane coniferous forests. This species is threatened by development, fire suppression, foot traffic, hydrological alterations, non-native plants, road maintenance, vehicles, and water diversions.

There is one record of Parish's yampah within a 5-mile radius of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### San Bernardino Mountain Bladderpod (*Physaria kingii* ssp. *bernardina*)

San Bernardino Mountains bladderpod is a federally endangered San Bernardino County endemic species. It is not state listed, but has a CNPS rare plant rank of 1B.1. This species is a perennial herb that blooms from May through June and is found at elevations ranging from 6,070 to 8,858 feet (1,850–2,700 meters) amsl. This species is associated with carbonate substrate and can be found in lower montane coniferous forests, subalpine coniferous forests, and pinyon and juniper woodlands. This species is threatened by development, mining, recreational activities, vegetation and fuel management, and vehicles.

This species is known from less than ten occurrences in the Big Bear Valley area. There are no records of San Bernardino Mountain bladderpod within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### San Bernardino Bluegrass (*Poa atropurpurea*)

San Bernardino bluegrass is a federally endangered California endemic species. In California, its distribution is limited to San Bernardino and San Diego counties. It is not state listed, but has a CNPS rare plant rank of 1B.2. This species is a perennial rhizomatous herb that blooms from April to August and is found at elevations ranging from 4,462 to 8,055 feet (1,360–2,455 meters) amsl. This species is associated with mesic meadows and seeps. San Bernardino bluegrass is threatened by development, grazing, hydrological alterations, mining, recreational activities, and vehicles. Another potential threat is hybridization with non-native Kentucky bluegrass (*Poa pratensis*).

There are no records of San Bernardino bluegrass within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Parish's Alkali Grass (*Puccinellia parishii*)

Parish's alkali grass is not state or federally listed; however, it does have a CNPS 1B.1 rare plant rank. This species blooms from April to May and can be found at elevations ranging from 2,310 to 3,330 feet (700–1,000 meters) amsl. Parish's alkali grass is found growing in meadows, seeps, and alkaline springs and is known in California from one occurrence at Rabbit Spring confirmed in 1992. This species is threatened by groundwater pumping, flood control, and trampling.

No records of this species were returned in the CNDDDB query; however, it was identified in the CNPS query. In addition, Parish's alkali grass was not identified during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

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#### Bear Valley Pyrrocoma (*Pyrrocoma uniflora* var. *gossypina*)

Bear Valley pyrrocoma is a perennial herb endemic to San Bernardino County. It has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from July to September and can be found at elevations ranging from 5,249 to 7,546 feet (1,600–2,300 meters) amsl. Bear Valley pyrrocoma is found growing in meadows and seeps and pebble plains. This species is threatened by grazing, development, non-native plants, recreational activities, trampling, and vehicles.

Bear Valley pyrrocoma is known from fewer than 20 occurrences. There are no records of this species within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Latimer's Woodland Gilia (*Saltugilia latimeri*)

Latimer's woodland gilia is an annual herb endemic to California. Its distribution is limited to Inyo, Kern, Riverside, and San Bernardino counties. Latimer's woodland gilia has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from March to June and can be found at elevations ranging from 1,312 to 6,234 feet (400–1,900 meters) amsl. It is associated with rocky or sandy areas, often in washes and often on granitic substrates. Latimer's woodland gilia is found growing in chaparral, Mojavean desert scrub, and pinyon and juniper woodland.

Latimer's woodland gilia is known from fewer than 20 occurrences and there have been very few recent collections. There is one record of this species within 1 mile of the PSA and no additional occurrences within 5 miles. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Bear Valley Checkerbloom (*Sidalcea malviflora* ssp. *dolosa*)

Bear Valley checkerbloom is a perennial herb endemic to San Bernardino County. It has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from May to August and can be found at elevations ranging from 4,905 to 8,809 feet (1,495–2,685 meters) amsl. It can be found in a variety of habitats, including meadows and seeps, riparian woodlands, and meadows and seeps in upper and lower montane coniferous forests. Bear Valley checkerbloom is threatened by hydrological alterations, water diversions, and vehicles. In addition, it is possibly threatened by development, recreational activities, and foot traffic.

Bear Valley checkerbloom is known from fewer than 20 occurrences, all within the San Bernardino Mountains. There are no records of this species within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### Bird-Foot Checkerbloom (*Sidalcea pedata*)

Bird-foot checkerbloom is a federally and state endangered species endemic to San Bernardino County. This species is a perennial rhizomatous herb with a CNPS rank of 1B.1. It blooms from May to August and is found at elevations ranging from 5,249 to 8,202 feet (1,600–2,500 meters) amsl. This species is associated with pebble plains and mesic meadows and seeps. Bird-foot checkerbloom is threatened by development, erosion, foot traffic, grazing, illegal dumping, non-native plants, and vehicles.

There are no records of this species within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.



#### Southern Jewel-Flower (*Streptanthus campestris*)

Southern jewel-flower is a perennial herb found in California and Baja California. It has a CNPS rare plant rank of 1B.3 and no federal or state listing. This species blooms from April through July and can be found at elevations ranging from 2,953 to 7,546 feet (900–2,300 meters) amsl. It can be found on rocky substrate in chaparral, lower montane coniferous forests, and pinyon and juniper woodlands.

There are no records of this species within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### San Bernardino Aster (*Symphotrichum defoliatum*)

San Bernardino aster is a perennial rhizomatous herb found in endemic to California. It has a CNPS rare plant rank of 1B.2 and no federal or state listing. This species blooms from July to November and can be found at elevations ranging from 7 to 6,693 feet (2–2,040 meters) amsl. It can be found near ditches, streams, and springs, in a variety of habitats, including cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernal mesic valley and foothill grasslands.

There is no record of this species within 1 mile of the PSA; however, there is one occurrence within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### California Dandelion (*Taraxacum californicum*)

California dandelion is a federally endangered species endemic to San Bernardino County. This species is a perennial herb with a CNPS rank of 1B.1 and no state listing. It blooms from May to August and is found at elevations ranging from 5,315 to 9,186 feet (1,620–2,800 meters) amsl. This species is associated with mesic meadows and seeps. California dandelion is seriously threatened by development, grazing and trampling, hydrological alterations, mining, vehicles, recreation, and hybridization with non-native common dandelion (*T. officinale*).

There are no records of this species within 5 miles of the PSA. This species was not observed during previous surveys; however, this species may occur within the PSA due to the presence of potential suitable habitat.

#### **Special-Status Wildlife Species**

Based on database search results, eight special-status wildlife species have the potential to occur in the PSA. Mule deer and bighorn sheep were also included the analysis because of known occurrences in the vicinity of the PSA. Each species considered in the impact analysis is described below based on the data obtained from various published data sources.

#### Desert Tortoise (*Gopherus agassizii*)

Desert tortoises are federally and state listed as a threatened species. In California, this species occurs in the Mojave and Sonoran deserts. They are found in a variety of desert habitats and terrains. At lower elevations, they are most common on flats and slopes characterized by creosote bush scrub, and at higher elevations, on rocky slopes characterized by blackbrush scrub or juniper woodlands. Desert tortoises are most often found in areas where there is sparse cover of low-growing shrubs; this allows establishment of an herbaceous layer for food. In

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addition, desert tortoises need friable, sandy-gravel soils for burrowing. This species has been found between sea level and 7,300 feet (0–2,225 meters) amsl (USFWS 2011).

Previous focused surveys for desert tortoise did not identify any individuals or their sign (scat, burrows, carcasses, etc.) on or adjacent to the PSA. There are no records of this species within 5 miles of the PSA; however, there are three CNDDDB records for this species within 10 miles of the PSA (CDFW 2013a). Due to the presence of suitable habitat for this species in portions of the PSA, there is the potential for this species to be affected by project-related activities.

#### Coast Horned Lizard (*Phrynosoma blainvillii*)

The coast horned lizard is a California species of special concern. Typical vegetative associations include valley-foothill hardwood, conifer, and riparian habitat as well as pine-cypress, juniper, and annual grassland. The current known distribution is in the Sierra Nevada foothills from Butte County south to Kern County and throughout the Central and Southern California coast. This species is typically found below 2,000 feet (606 meters) amsl in the north and 3,000 feet amsl in the south; however, the range may extend up to 4,000 feet (1,212 meters) amsl in the Sierra Nevada foothills and 6,000 feet (1,818 meters) in the Southern California mountain ranges.

There are no CNDDDB records of this species in proximity to the PSA; however, there are three records within 10 miles. This species was not observed during previous surveys for other species or biological evaluations; however, focused surveys for this species have not been conducted to date. Due to the presence of suitable habitat for this species in portions of the PSA, there is the potential for this species to be affected by project-related activities.

#### Golden Eagle (*Aquila chrysaetos*)

The golden eagle is a California fully protected species and is federally protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Lacey Act. Golden eagles typically inhabit rolling foothills, mountain areas, sage-juniper flats, and desert habitats from sea level up to 11,500 feet (0–3,484 meters) amsl (CDFW 2013d). Nest sites are typically on cliffs and in large trees in open areas. Although this species is unlikely to use the habitat within the PSA for nesting, it may nest on adjacent lands and use the PSA for foraging.

Focused surveys for this species have not been conducted to date; however, the presence of suitable habitat, the observation of an individual fly-over, and the presence of two CNDDDB records within 5 miles and 13 within 10 miles of the project result in the potential for this species to be impacted by project-related activities.

#### Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a California species of special concern and is federally protected under the Migratory Bird and Treaty Act and as a bird of prey under the Raptor Recovery Act. Burrowing owls prefer nesting in mammal burrows in open areas of dry, open, rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and along the edges of human disturbed lands. This species can also be found inhabiting golf courses, airports, cemeteries, vacant lots, and road embankments with friable soils for nesting. The elevation range for this species extends from 200 feet (60 meters) below mean sea level (bmsl) to 12,000 feet (3,636 meters) amsl at the Dana Plateau in Yosemite (Bates 2006).

Focused surveys for this species have not been conducted to date; however, the presence of suitable habitat and the presence of four CNDDDB records within 5 miles of the project results in the potential for this species to be impacted by project-related activities.

#### Le Conte's Thrasher (*Toxostoma lecontei*)

The Le Conte's thrasher is a California species of special concern. This species is a nonmigratory bird this is endemic to California, Nevada, Arizona, Utah, and Mexico. Le Conte's thrashers prefer to nest in thorny shrubs and small desert trees such as prickly pear (*Opuntia* spp.), saltbush (*Atriplex* spp.), and yuccas (including small Joshua trees and mesquites (*Prosopis* spp.)). The elevation range for this species extends from 267 feet (81 meters) bmsl in Inyo County to 4,950 feet (1,500 meters) amsl or higher in the Mojave Desert (Weigand and Fitton 2008).

Focused surveys for this species have not been conducted to date. The presence of suitable habitat, along with the presence of eight CNDDDB records within 5 miles and 18 within 10 miles of the project result in the potential for this species to be impacted by project-related activities.

#### Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*)

The pallid San Diego pocket mouse is a California species of special concern. Habitats typically associated with this species include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. The elevation range for this species is from sea level up to 4,500 feet (1,350 meters) amsl in the Santa Rosa Mountains and Riverside County, and 6,000 feet (1,800 meters) amsl at Cactus Flat on the north slope of the San Bernardino Mountains (CDFW 2013d).

Focused surveys for this species have not been conducted to date. The presence of suitable habitat and the presence of three CNDDDB records within 5 miles of the project result in the potential for this species to be impacted by project-related activities.

#### Townsend's Big-Eared Bat (*Corynorhinus townsendii*)

The Townsend's big-eared bat is a California species of special concern. This species is broadly distributed across California in subalpine and alpine habitats. Caves, mines, tunnels, buildings, or other human-made structures are required for roosting, and separate sites for night, day, hibernation, or maternity roosts may be used. Hibernation sites are cold, but not below freezing, while maternity roosts are warm. This species is extremely sensitive to disturbance of roosting sites, and all known nursery colonies in limestone caves in California have apparently been abandoned (CDFW 2013d).

Focused surveys for this species have not been conducted to date. The presence of suitable habitat and the presence of one CNDDDB record within 5 miles of the project result in the potential for this species to be impacted by project-related activities.

#### Western Mastiff Bat (*Eumops perotis californicus*)

The western mastiff bat is a California species of special concern and an uncommon resident in the southeastern San Joaquin Valley, in the Coastal Ranges from Monterey County south to Southern California, and from the coast east to the Colorado Desert. This species is typically associated with semi-arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban habitats. Western mastiff bats prefer crevices in cliff faces, high buildings, trees, and tunnels for roosting; and when roosting in rock crevices, vertical faces are required to drop off and take flight (CDFW 2013d).

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Focused surveys for this species have not been conducted to date. The presence of suitable habitat and the presence of one CNDDDB record within 10 miles of the project result in the potential for this species to be impacted by project-related activities.

#### Mule Deer (*Odocoileus hemionus*)

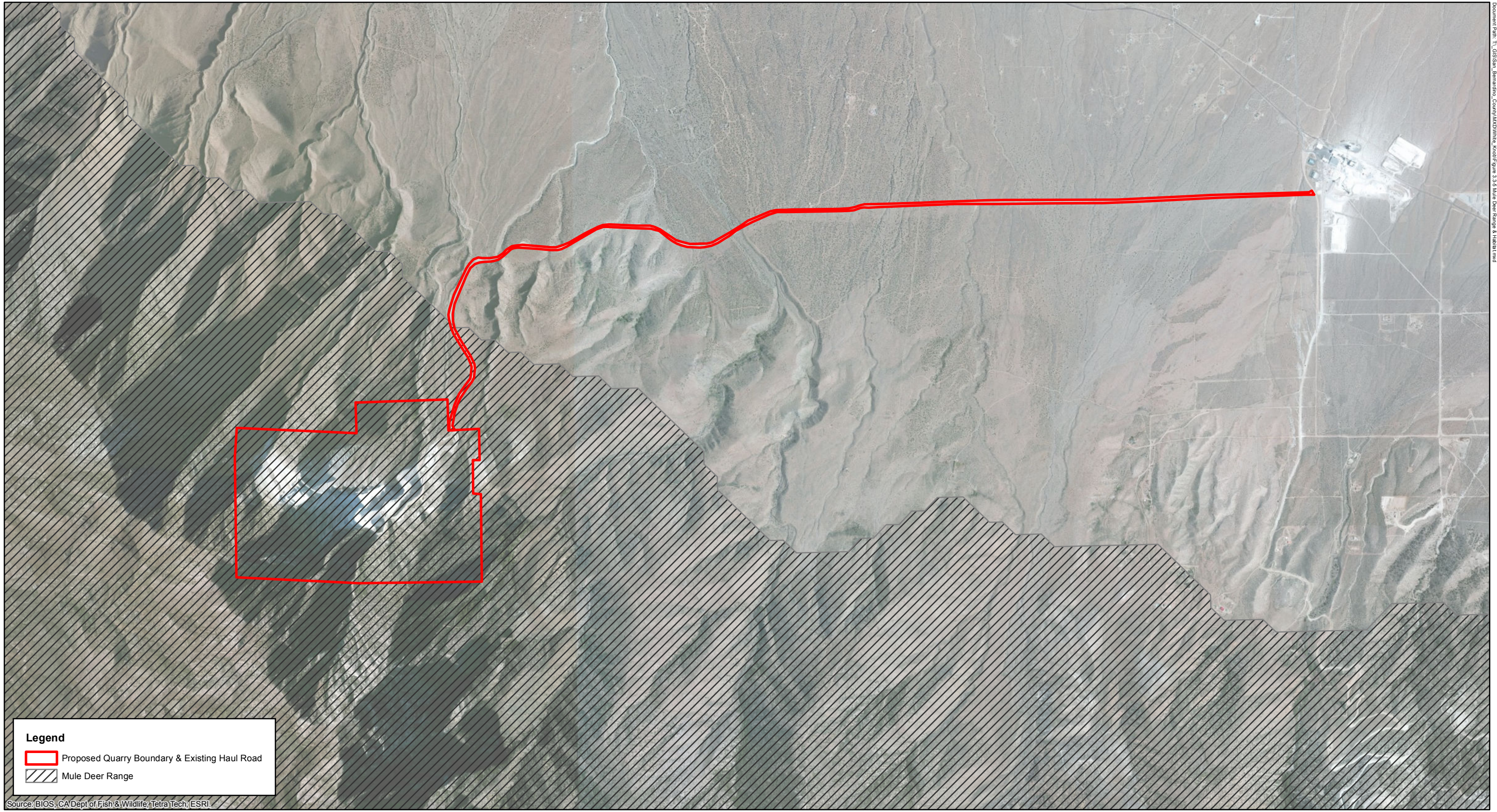
Mule deer are common, yearlong residents or elevational migrants with a widespread distribution in California, except in deserts and intensively farmed areas without cover. This species occurs along major river corridors in the Central Valley and in scattered desert mountain areas. Mule deer prefer a mosaic of early to intermediate successional stages of forest, woodland, and brush habitats that provide woody cover, meadow and shrubby openings, and water sources. Fawning occurs in moderately dense shrublands and forests, dense herbaceous areas, and high-elevation riparian and mountain shrub habitats that contain adequate forage and water. Fawning occurs from early April to midsummer and varies based on snowpack conditions (CDFW 2013d).

The PSA is located on the edge of the range for this species (**Figure 3.3-5**), and no individuals have been documented on-site; however, the connectivity model developed in *A Linkage Network for the California Deserts* (Penrod et al. 2012) identifies the undisturbed lands surrounding the PSA as “core” habitat for mule deer. This data is available via the Mule Deer Connectivity Modeling for the California Desert Linkage Network [ds829] layer on the CDFW BIOS 5 Viewer (2013c). As a result, there is the potential for this species to occur in the vicinity of the PSA.



#### Bighorn Sheep (*Ovis canadensis*)

Bighorn sheep are mostly uncommon in California and use alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian habitats. This species grazes all year on a wide variety of plant species but prefers green, succulent grasses and forbs in open habitats such as rocky barrens, meadows, and low sparse brushlands. Steep, rocky terrain is used as escape habitat and for bedding. In addition, steep, rugged slopes and canyons are used by this species as lambing areas (CDFW 2013d).

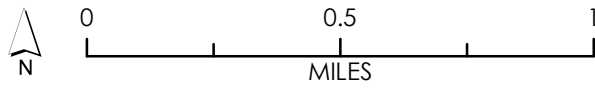
The PSA is located within the range for this species, and the connectivity model identifies the PSA and surrounding habitats as patch habitat (Penrod et al. 2012). These data are available via the Bighorn Sheep Connectivity Modeling for the California Desert Linkage Network [ds828] layer on the CDFW BIOS 5 Viewer (CDFW 2013c). The PSA may be used by bighorn sheep rarely during exploratory/breeding movements; however, it falls outside the known home range of bighorn sheep on the north slope of the San Bernardino Mountains (Jeff Villepique, pers. comm.)



**Legend**

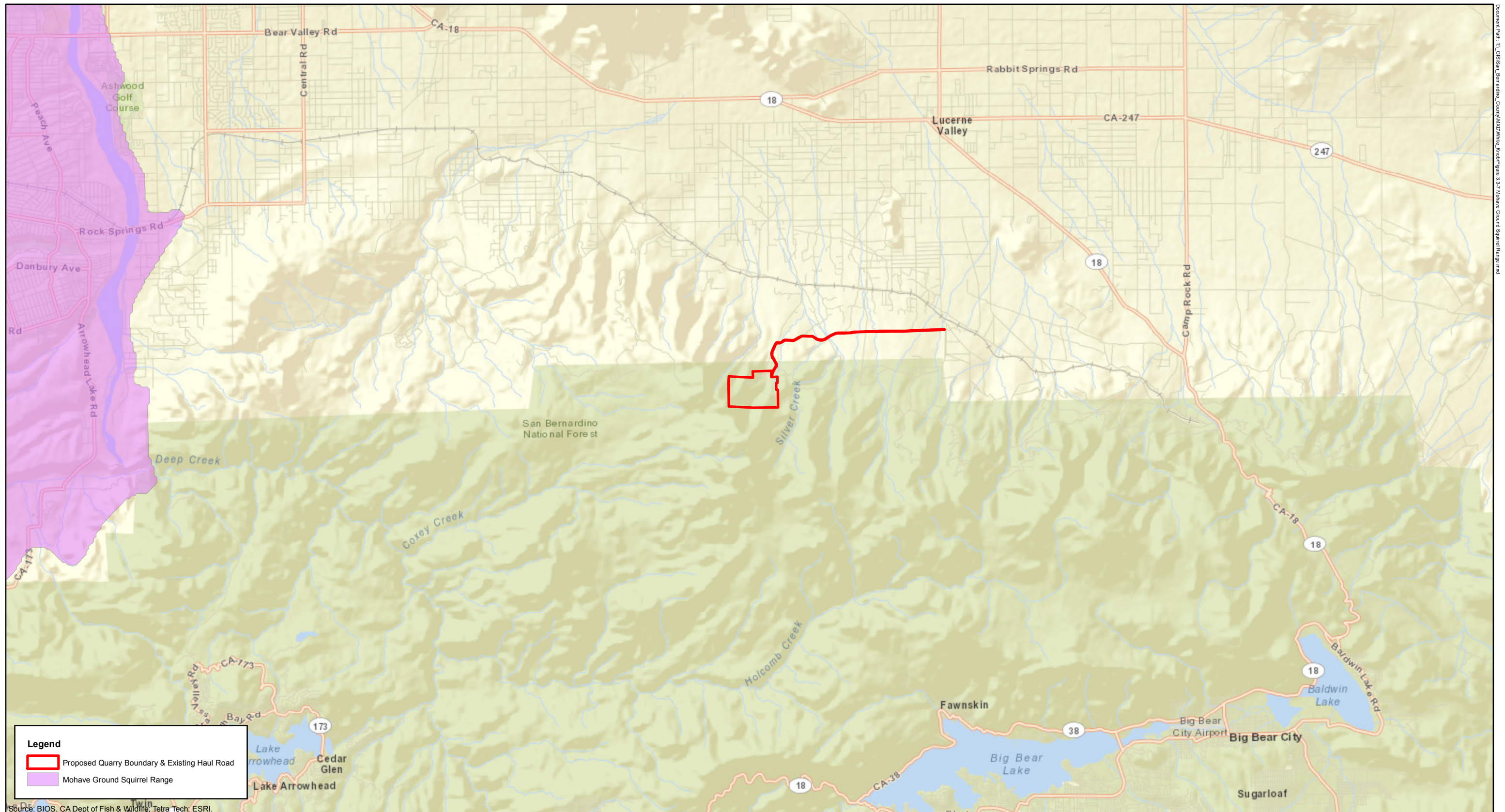
-  Proposed Quarry Boundary & Existing Haul Road
-  Mule Deer Range

Source: BIOS, CA Dept of Fish & Wildlife, Tetra Tech, ESRI.



**Figure 3.3-5**  
Mule Deer Range

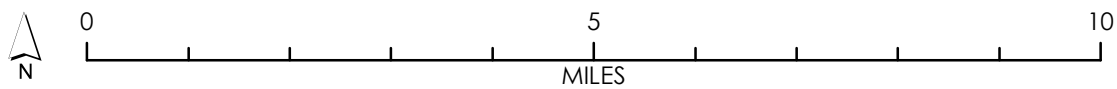




**Legend**

- Proposed Quarry Boundary & Existing Haul Road
- Mohave Ground Squirrel Range

Source: BIOS, CA Dept of Fish & Wildlife, Tetra Tech, ESRI.



Document Path: T:\GIS\San\_Bernardino\_County\MOHAVE\Keefer\figure 3.3 Mohave Ground Squirrel Range.mxd

**Figure 3.3-6**  
Mohave Ground Squirrel Range





### **3.3.2 REGULATORY FRAMEWORK**

This section identifies environmental review and consultation requirements, as well as permits and approvals that must be obtained from local, state, and federal agencies before implementation of the project.

#### **FEDERAL**

##### **Endangered Species Act**

The Endangered Species Act of 1973 (ESA), as amended, provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code (USC) Sections 1531–1544). The ESA defines “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Title 50, Part 222, of the Code of Federal Regulations (50 CFR Section 222) further defined “harm” to include “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including feeding, spawning, rearing, migrating, feeding, or sheltering.”

ESA Section 7(a)(1) requires federal agencies to utilize their authority to further the conservation of listed species. ESA Section 7(a)(2) requires consultation with the USFWS or the National Marine Fisheries Service (NMFS) if a federal agency undertakes, funds, permits, or authorizes (termed the federal nexus) any action that may affect endangered or threatened species, or designated critical habitat. For projects that may result in the incidental “take” of threatened or endangered species, or critical habitat, and that lack a federal nexus; a Section 10(a)(1)(b) incidental take permit can be obtained from the USFWS and/or the NMFS.

##### **Clean Water Act**

The basis of the Clean Water Act (CWA) was established in 1948; however, it was referred to as the Federal Water Pollution Control Act. The act was reorganized and expanded in 1972 (33 USC Section 1251), and at this time the Clean Water Act became the act’s commonly used name. The basis of the CWA is the regulation of pollutant discharges into waters of the United States, as well as the establishment of surface water quality standards.

##### Section 404

CWA Section 404 (33 USC Section 1344) established the program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Under this regulation, certain activities proposed within waters of the United States require the obtainment of a permit prior to initiation. These activities include, but are not limited to, placement of fill for the purposes of development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and bridges), and mining operations.

The primary objective of this program is to ensure that the discharge of dredged or fill material is not permitted if a practicable alternative to the proposed activities exists that results in less waters of the United States or the proposed activity would result in significant adverse impacts on these waters. To comply with these objectives, a permittee must document the measures taken to avoid and minimize impacts on waters of the United States and provide compensatory mitigation for any unavoidable impacts.

### 3.3 BIOLOGICAL RESOURCES

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The U.S. Environmental Protection Agency (EPA) and the USFWS are assigned roles and responsibilities in the administration of this program; however, the USACE is the lead agency in the administration of day-to-day activities, including issuance of permits. The agencies will typically assert jurisdiction over the following waters: (1) traditional navigable waters (TNW); (2) wetlands adjacent to TNWs; (3) relatively permanent waters (RPW) that are non-navigable tributaries to TNWs and have relatively permanent flow or seasonally continuous flow (typically three months); and (4) wetlands that directly abut RPWs. Case-by-case investigations are usually conducted by the agencies to ascertain their jurisdiction over waters that are non-navigable tributaries and do not contain relatively permanent or seasonal flow, wetlands adjacent to the aforementioned features, and wetlands adjacent to but not directly abutting RPWs (USACE 2007). Jurisdiction is not generally asserted over swales or erosional features (e.g., gullies or small washes characterized by low-volume/short-duration flow events) or ditches constructed wholly within and draining only uplands that do not have relatively permanent flows.

The extent of jurisdiction within waters of the United States, which lack adjacent wetlands, is determined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR Section 328.3(e) as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” Wetlands are further defined under 33 CFR Section 328.3 and 40 CFR Section 230.3 as “those areas that are inundated or saturated by surface or ground water 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”; and typically include “swamps, marshes, bogs, and similar areas.” The 1987 *Corps of Engineers Wetland Delineation Manual* (1987 Manual) sets forth a standardized methodology for delineating the extent of wetlands under federal jurisdiction (USACE 1987).

The 1987 Manual outlines three parameters that all wetlands, under normal circumstances, must contain positive indicators for to be considered jurisdictional. These parameters include (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils (USACE 1987). In 2006, the USACE issued a series of Regional Supplements to address regional differences that are important to the functioning and identification of wetlands. The supplements present “wetland indicators, delineation guidance, and other information” that is specific to the region. The USACE requires that wetland delineations submitted after June 5, 2007, be conducted in accordance with both the 1987 Manual and the applicable supplement.

#### Section 401

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit and/or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants or waives CWA Section 401 certification. CWA Section 401 provides states or tribes with the ability to grant, grant with conditions, deny, or waive certification. Granting certification, with or without conditions, allows the federal permit/license to be issued and remain consistent with any conditions set forth in the CWA Section 401 certification. Denial of the certification prohibits the issuance of the federal license or permit, and waiver allows the permit/license to be issued without state or tribal comment. Decisions made by states or tribes are based on the proposed project’s compliance with EPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the State Water Resources Control Board is the primary regulatory authority for CWA Section 401 requirements (additional details below).

**Migratory Bird Treaty Act**

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Sections 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Section 21). The majority of birds found in the project vicinity would be protected under the MBTA.

**Bald and Golden Eagle Protection Act**

The bald eagle and golden eagle are federally protected under the Bald and Golden Eagle Protection Act (16 USC Sections 668–668c). Under the act, it is illegal to take, possess, sell, purchase, barter, offer to sell or purchase or barter, transport, export, or import at any time or in any manner a bald or golden eagle, alive or dead; or any part, nest or egg of these eagles unless authorized by the Secretary of the Interior. Violations are subject to fines and/or imprisonment for up to one year. Active nest sites are also protected from disturbance during the breeding season.

**Executive Order 13112 – Invasive Species**

This executive order directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. As part of the proposed action, the USFWS and the USACE would issue permits and therefore would be responsible for ensuring that the proposed action complies with Executive Order 13112 and does not contribute to the spread of invasive species.

**Fish and Wildlife Coordination Act of 1958 (16 USC 661 et seq.)**

The Fish and Wildlife Coordination Act requires that whenever any body of water is proposed or authorized to be impounded, diverted, or otherwise controlled or modified, the lead federal agency must consult with the USFWS, the state agency responsible for fish and wildlife management, and the National Marine Fisheries Service. Section 662(b) of the act requires the lead federal agency to consider the recommendations of the USFWS and other agencies. The recommendations may include proposed measures to mitigate or compensate for potential damages to wildlife and fisheries associated with a modification of a waterway.

**Executive Order 11990 Protection of Wetlands (42 FR 26961, May 25, 1977)**

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural qualities of these lands. Federal agencies are required to avoid undertaking or providing support for new construction located in wetlands unless (1) no practicable alternative exists and (2) all practical measures have been taken to minimize harm to wetlands.

### 3.3 BIOLOGICAL RESOURCES

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#### STATE

#### **California Endangered Species Act**

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC Section 2070). The CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for potential addition to the list of endangered or threatened species, and a list of "species of special concern," which serve as a species "watch lists."

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts on species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from the CDFW would be in the form of an incidental take permit.

#### **California Fish and Game Code**

##### Streambed Alteration Agreement (FGC Sections 1600–1607)

State and local public agencies are subject to FGC Section 1602, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as waters of the state by the CDFW. Under FGC Section 1602, a discretionary Streambed Alteration Agreement must be issued by the CDFW to the project proponent prior to the initiation of construction activities within lands under CDFW jurisdiction. As a general rule, this requirement applies to any work undertaken within the 100-year floodplain of a stream or river containing fish or wildlife resources.

##### Native Plant Protection Act

The Native Plant Protection Act (FGC Sections 1900–1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered (as defined by the CDFW). An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give that state agency at least 10 days to retrieve the plants before they are plowed under or otherwise destroyed (FGC Section 1913). Project impacts on these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

##### Birds of Prey

Under FGC Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

#### “Fully Protected” Species

California statutes also afford “fully protected” status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be “taken,” even with an incidental take permit. FGC Section 3505 makes it unlawful to take “any egret or egret, osprey, bird of paradise, gaura, numidi, or any part of such a bird. FGC Section 3511 protects from take the following fully protected birds: (a) golden eagle and (b) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); . FGC Section 4700 identifies the following fully protected mammals that cannot be taken: (a) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); and (b) ring-tailed cat (genus *Bassariscus*);.

#### **California Wetlands and Other Waters Policies**

The California Resources Agency and its various departments do not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands. Exceptions may be granted if all of the following conditions are met:

- The project is water-dependent.
- No other feasible alternative is available.
- The public trust is not adversely affected.
- Adequate compensation is proposed as part of the project.

#### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code Section 13000 et seq.; CCR Title 23, Chapter 3, Subchapter 15) is the primary state regulation that addresses water quality. The requirements of the act are implemented by the State Water Resources Control Board at the state level and at the local level by the Regional Water Quality Control Board (RWQCB). The RWQCB carries out planning, permitting, and enforcement activities related to water quality in California. The act provides for waste discharge requirements and a permitting system for discharges to land or water. Certification is required by the RWQCB for activities that can affect water quality.

#### Clean Water Act, Section 401 Water Quality Certification

CWA Section 401 (33 USC Section 1341) requires that any applicant for a federal license or permit, which may result in a pollutant discharge to waters of the United States, obtain a certification that the discharge will comply with EPA water quality standards. The state or tribal agency responsible for issuance of the Section 401 certification may also require compliance with additional effluent limitations and water quality standards set forth in state/tribal laws. In California, the RWQCB is the primary regulatory authority for CWA Section 401 requirements.

The Colorado River RWQCB is responsible for enforcing water quality criteria and protecting water resources in the project area. In addition, the RWQCB is responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements (WDR) or commonly by issuing conditional waivers to WDRs. The RWQCB requires that a project proponent obtain a CWA Section 401 water quality certification for CWA Section 404 permits issued by the USACE. A request for water quality certification (including WDRs) by the RWQCB and an application for a General Permit for Storm Water Discharges Associated with Construction

### 3.3 BIOLOGICAL RESOURCES

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Activities are prepared and submitted following completion of the CEQA environmental document and submittal of the wetland delineation to the USACE.

#### Delegated Permit Authority

California has been delegated permit authority for the National Pollutant Discharge Elimination System (NPDES) permit program, including stormwater permits for all areas except tribal lands. Issuance of CWA Section 404 dredge and fill permits remains the responsibility of the USACE; however, the state actively uses its CWA Section 401 certification authority to ensure CWA Section 404 permits are in compliance with state water quality standards.

#### State Definition of Covered Waters

Under California state law, waters of the state means “any surface water or groundwater, including saline waters, within the boundaries of the state.” Therefore, water quality laws apply to both surface water and groundwater. After the U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, the Office of Chief Counsel of the State Water Resources Control Board released a legal memorandum confirming the state’s jurisdiction over isolated wetlands. The memorandum stated that under the California Porter-Cologne Water Quality Control Act (Porter-Cologne), discharges to wetlands and other waters of the state are subject to state regulation, and this includes isolated wetlands. In general, the Board regulates discharges to isolated waters in much the same way as they do for waters of the United States, using Porter-Cologne rather than Clean Water Act authority.

#### NONGOVERNMENTAL AGENCY

##### **California Native Plant Society**

The California Native Plant Society (CNPS) is a nongovernmental agency that classifies native plant species according to current population distribution and threat level in regard to extinction. These data are utilized by the CNPS to create/maintain a list of native California plants that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2013). Potential impacts on populations of CNPS-listed plants receive consideration under CEQA review.

The following identifies the definitions of the CNPS listings:

- List 1A: Plants believed to be extinct
- List 1B: Plants that are rare, threatened, or endangered in California and elsewhere
- List 2: Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere

All of the plant species on List 1 and 2 meet the requirements of the Native Plant Protection Act Section 1901, Chapter 10, or FGC Section 2062 and Section 2067 and are eligible for state listing. Plants appearing on List 1 or 2 are considered to meet the criteria of CEQA Section 15380, and effects on these species are considered “significant.” Classifications for plants on List 3 (plants about which we need more information and/or List 4 (plants of limited distribution), as defined by the CNPS, are not currently protected under state or federal law. Therefore, no detailed descriptions or impact analysis was performed on species with these classifications.

LOCAL

**San Bernardino County General Plan**

The General Plan includes policies and programs that are intended to guide future development in a way that reduces impacts on biological resources. For example, the General Plan states that in addition to conditions of approval that may be required for specific future development proposals, the County shall establish long-term comprehensive monitoring plans for its role in the protection of native species. In addition, the General Plan contains policy provisions that prohibit land conversion until adequate mitigation is provided to reduce impacts to less than significant in cases where a mitigated negative declaration is used for CEQA compliance. The following is a list of the applicable policies and programs that address biological resources in the county and pertain to the proposed project. These policies are designed to guide future development in a way that lessens impacts on these features. These provisions are discussed in more detail in the impact discussions below.

Policy CO 2.1      The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

Programs

2. The County shall require the conditions of approval of any land use application to incorporate the County's identified mitigation measures in addition to those that may be required by state or federal agencies to protect and preserve the habitats of the identified species. This measure is implemented through the land use regulations of the County Development Code and compliance with the CEQA, CESA, ESA and related environmental laws and regulations.

Policy CO 2.4      All discretionary approvals requiring mitigation measures for impacts to biological resources will include the condition that the mitigation measures be monitored and modified, if necessary, unless a finding is made that such monitoring is not feasible.

Programs

1. The monitoring program will be designed to determine whether the mitigation measures were implemented and effective.
2. The monitoring program will be funded by the project applicant to ensure compliance with and effectiveness of conditions of approval.

**San Bernardino Development Code**

Division 2, Land Use Zoning Districts and Allowed Land Uses

Chapter 82.11 (Biotic Resources Overlay) of the Development Code implements General Plan policies regarding the protection and conservation of beneficial rare and endangered plants and animal resources and their habitats, which have been identified within unincorporated

### 3.3 BIOLOGICAL RESOURCES

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areas of the county. Biotic Resources Overlays are applied to areas that have been identified by a county, state, or federal agency as habitat for species of unique, rare, threatened, or endangered plants or animals or their habitats as listed in the General Plan. When a land use is proposed, or an existing land use is increased by more than 25 percent of disturbed area within a Biotic Resources Overlay, the land use application must include a biotic resources report, which identifies all biotic resources located on the site and those on adjacent parcels that could be impacted by the proposed development. The biotic resources report is also required to identify mitigation measures designed to reduce or eliminate impacts on the identified resources.

#### Division 8, Resource Management and Conservation

Chapter 88.01 (Plant Protection and Management) provides regulations and guidelines for the management of plant resources in the unincorporated areas of the county on property or combinations of property under private or public ownership. The intent of Chapter 88.01 is to promote plant life within the county through appropriate management techniques, conserve the native plant life heritage, regulate native plant and tree removal activity, protect and maintain local watersheds, and preserve habitats for rare, endangered, or threatened plants and to protect animals with limited or specialized habitats. Chapter 88.01 requires the issuance of a permit prior to the removal of regulated trees and plants.

#### **Carbonate Habitat Management Strategy**

The Carbonate Habitat Management Strategy (CHMS) was developed to facilitate limestone mining activity while conserving four federally listed plant species that occur in the northeastern San Bernardino Mountains, almost exclusively on carbonate soils (Olson 2003). The plants covered under the CHMS include Cushenbury buckwheat, Cushenbury milk-vetch, Cushenbury oxytheca, and Parish's daisy. The goal of the CHMS is to streamline compliance with the federal Endangered Species Act for mining activities while building a reserve for carbonate plants that is designed to provide for their long-term survival and recovery. The Carbonate Habitat Management Area (CHMA), for which the CHMS was developed, covers approximately 160,000 acres in the northeast San Bernardino Mountains, including the PSA. A Memorandum of Understanding and Agreement was signed by Omya, the USFS, the BLM, San Bernardino County, Specialty Minerals, Mitsubishi Cement Company, the CNPS, and the Cushenbury Mine Trust to implement the CHMS. A copy of the agreement is included in **EIR Appendix D**.

### **3.3.3 IMPACTS AND MITIGATION MEASURES**

#### STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance:

- 1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS.
- 2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS.



- 3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- 4) 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.
- 5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- 6) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.
- 7) Reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species or biotic community, thereby causing the species or community to drop below self-sustaining levels.

#### METHODOLOGY

The impact assessment below discusses impacts from implementation of project activities. The impact assessment was based on the project description (Chapter 2.0), information described in the environmental setting, and the standards of significance described above. In addition, the impact analysis is organized by the significance criteria noted above: special-status plant and wildlife species, sensitive vegetation communities, federally protected wetlands, wildlife movement corridors, and compliance with local plans and policies, or existing habitat conservation plans. Each impact category includes a description of the specific potential impacts as well as avoidance, minimization, and mitigation measures that can potentially reduce and mitigate potentially significant impacts. The reader is referred to Chapter 2.0, Project Description, for specific details on the project. The impact analysis factors the existing quarry operations with how implementation of the proposed Amended Mine and Reclamation Plan associated with future mining and reclamation.

#### IMPACTS AND MITIGATION MEASURES

##### **Impacts on Candidate, Sensitive, or Special-Status Species (Standards of Significance 1 and 7)**

The species or species groups identified below were determined to have the potential to be significantly impacted by project-related activities, either directly or through habitat modification. Impacts on these species would be considered a **potentially significant** impact.

##### **Special-Status Species**

**Impact 3.3.1** General mine operation and construction activities could result in substantial adverse effects, either directly or through habitat modifications, to special-status species, which would be considered a **potentially significant** impact.

The day-to-day operations of the project, in addition to the expansion of the mine into undisturbed habitat, have the potential to result in adverse impacts on special-status species through mortality and/or habitat loss. This would be a **potentially significant impact**.

### 3.3 BIOLOGICAL RESOURCES

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#### Mitigation Measures

The following mitigation measures are applicable to all project-related activities:

- MM 3.3.1a** The mine operator shall retain a qualified biologist to conduct mandatory contractor/worker awareness training for project personnel. The awareness training will be provided to all personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts on biological resources (e.g., plants, wildlife, and jurisdictional waters), and to brief them on the penalties for not complying with biological mitigation requirements. If new personnel are added to the project, the mine operator will ensure that they receive the mandatory training before starting work.
- MM 3.3.1b** The mine operator shall designate a field contact representative (FCR) responsible for overseeing compliance with protections to special-status species. The FCR shall be on-site during all project activities that could potentially cause significant impacts on sensitive biological resources. The FCR shall have the authority to halt activities that are in violation of the committed measures and non-emergency project-related activities that may endanger special-status species. The FCR shall authorize re-initiation of project activities after the hazards are removed, the species is no longer at risk, or the individual(s) are moved out of harm's way by the qualified biologist.
- MM 3.3.1c** Project-related vehicles will stay on roads and observe a 25 mile per hour speed limit in all project areas, except on county roads and state and federal highways.
- MM 3.3.1d** Project-related vehicles shall be checked before moving for wildlife, as wildlife may seek shade and shelter under parked vehicles and construction equipment.
- MM 3.3.1e** All construction pipes, culverts, or similar structures that are stored on the project site for one or more nights shall be inspected thoroughly for the presence of wildlife before they are used or moved. If wildlife is present, they shall be allowed to move out of the area on their own or moved out of harm's way by a qualified biologist.
- MM 3.3.1f** Encounters with a special-status wildlife species shall be reported to the FCR and qualified biologist. The qualified biologist shall maintain records of all encounters during the project, the species' condition, location found, and location released.
- MM 3.3.1g** All food-related trash items such as food wrappers, cans, bottles, and food scraps shall be disposed of in secured, closed containers and removed regularly from the project site.
- MM 3.3.1h** Fueling of vehicles and equipment shall be prohibited within 100 feet of riparian/riverine areas.
- MM 3.3.1i** No rodenticides shall be used on the project site.

*The following timing/implementation and enforcement/monitoring applies to all of the mitigation measures identified above.*

Timing/Implementation: Prior to and ongoing during quarry operation

Enforcement/Monitoring: San Bernardino County Planning Department

Implementation of the mitigation measures above would reduce potential impacts to a **less than significant** level.

### Special-Status Plant Species

**Impact 3.3.2** Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modification, to special-status plant species, which would be considered a **potentially significant** impact.

Suitable habitat for 37 listed plant species occurs within the PSA. In addition, previous focused surveys have identified Cushenbury buckwheat, Cushenbury oxytheca, and Parish's daisy within the PSA; however, the CHMS is designed to mitigate for impacts on these species as well as Cushenbury milk-vetch. In 2003 Omya entered into a Memorandum of Understanding with the US Forest Service, Bureau of Land Management, San Bernardino County, and other private parties, whereby all parties agreed to implement the terms of the CHMS in regard to future mining proposals. Implementation of the CHMS will ensure that impacts on these species are mitigated to a less than significant level.

However, the remaining 33 special-status plant species are not covered by the CHMS and therefore may be adversely impacted by implementation of project-related activities should they be present in areas proposed for disturbance. This impact is considered **potentially significant**.

### Mitigation Measures

**MM 3.3.2 Rare Plant Surveys.** Prior to initiating project-related activities in undisturbed portions of the site, the mine operator shall retain a qualified biologist to perform focused surveys to determine the presence/absence of special-status plant species with potential to occur in and adjacent to (within 25 feet, where appropriate) the proposed impact area. Species intended to be addressed by this mitigation measure include all species not covered by the CHMS and for which a "may affect" determination was made in **Table 3.3-1**.

These surveys shall be conducted in accordance with the CDFW *Guidelines for Assessing Effects of Proposed Developments on Rare Plants and Plant Communities* (Nelson 1994). These guidelines require that rare plant surveys be conducted at the proper time of year when rare or endangered species are both evident and identifiable. Field surveys shall be scheduled to coincide with known flowering periods and/or during appropriate developmental periods that are necessary to identify the plant species of concern.

If any state- or federally listed, CNPS List 1, or CNPS List 2 plant species are found in or adjacent to (within 25 feet) the proposed impact area during the surveys, these plant species shall be avoided to the extent feasible and the following mitigation measures shall be implemented:

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- (1) In some cases involving state-listed plants, it may be necessary to obtain an incidental take permit under Section 2081 of the Fish and Game Code (2081 permit). The mine operator shall consult with the CDFW to determine whether a 2081 permit is required and obtain all required authorizations prior to initiation of ground-breaking activities.
- (2) Before conducting any ground-breaking activity within the proposed impact area, the mine operator shall submit a mitigation plan concurrently to Land Use Services, the CDFW and the USFWS (if appropriate) for review and comment. The plan shall include mitigation measures for the population(s) to be directly affected. Possible mitigation for impacts on special-status plant species can include implementation of a program to transplant, salvage, cultivate, or re-establish the species at suitable sites (if feasible) or through the purchase of credits from an approved mitigation bank, if available. The actual level of mitigation may vary depending on the sensitivity of the species, its prevalence in the area, and the current state of knowledge about overall population trends and threats to its survival. The final mitigation strategy for directly impacted plant species shall be determined by the CDFW and the USFWS (if appropriate) through the mitigation plan approval process.
- (3) Any special-status plant species that are identified within 25-feet of the proposed impact area, but not proposed to be disturbed by the project, shall be protected by barrier fencing to ensure that construction activities and material stockpiles do not impact any special-status plant species. These avoidance areas shall be identified on project plans.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measure **MM 3.3.2** will reduce potential impacts to a **less than significant** level by ensuring that special-status plant species are fully mitigated.

#### **Desert Tortoise**

**Impact 3.3.3** Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modification, to desert tortoise. These effects would be considered a **potentially significant** impact.

Previous surveys did not detect desert tortoises or tortoise sign (burrows, scat, carcasses, etc.) on or adjacent to the PSA. In addition, the closest documented occurrence in the region is approximately 7 miles north of the PSA. Nonetheless, suitable habitat exists for this species within the PSA; therefore, this species could potentially inhabit the site, which would result in adverse impacts on desert tortoises should they be present in areas proposed for disturbance. The impact is considered **potentially significant**.

#### Mitigation Measures

**MM 3.3.3a** **Desert Tortoise Surveys.** Prior to implementation of project-related activities in undisturbed portions of the site, the mine operator shall retain a USFWS-

authorized desert tortoise biologist to conduct pre-project surveys in accordance with the USFWS pre-project field survey protocol (2010). If no desert tortoises are identified during pre-project surveys, no further mitigation is required. If individuals or their sign are identified during pre-project surveys, mitigation measure **MM 3.3.3b** shall be implemented.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

#### **MM 3.3.3b**

**Desert Tortoise Avoidance, Minimization, and Mitigation.** Should occupied desert tortoise habitat be identified during the pre-project surveys, a biological mitigation and monitoring plan shall be developed in consultation with the USFWS and the CDFW. This plan shall describe all measures to be implemented prior to, during, and after construction, including, but not limited to, the following:

- (1) All tortoise burrows shall be avoided to the greatest extent feasible, and temporary exclusionary tortoise fencing (1x2-inch mesh hardware cloth) shall be installed at the limits of disturbance prior to initiation of construction activities. Fence installation and ongoing oversight of the need for maintenance shall be monitored by a USFWS-authorized desert tortoise biologist.
- (2) Upon completion of fence installation, the authorized biologist shall conduct a clearance survey of the fenced area prior to declaring the construction area free of tortoises.
- (3) If it is necessary to excavate a desert tortoise from its burrow to move it out of harm's way, excavation shall be done with hand tools, either by or under the direct supervision of the authorized biologist.
- (4) Desert tortoises removed from burrows shall be placed in an unoccupied burrow of approximately the same size as the one from which they were removed. If an existing burrow is not available, the authorized biologist shall construct one.
- (5) Desert tortoises moved during inactive periods will be monitored for at least two days after relocation or the end of construction, whichever occurs first.
- (6) If desert tortoises need to be moved at a time of day when ambient temperatures could harm them (less than 40 degrees and over 90 degrees Fahrenheit), they shall be held overnight in a clean cardboard box and released the following day during more favorable temperatures. Cardboard boxes used to hold tortoises shall only be used once.
- (7) All handling of desert tortoises shall be performed consistent with the *Guidelines for Handling Desert Tortoises During Construction Projects* (Desert Tortoise Council 1994).

### 3.3 BIOLOGICAL RESOURCES

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- (8) The mine operator shall mitigate for impacts on occupied desert tortoise habitat through the purchase of credits from a mitigation bank. The amount of credits purchased and the location of the mitigation bank used shall be established through consultation with and approval by the USFWS and the CDFW. The mine operator shall provide the County with evidence that the permit and/or other requirements established by either agency have been satisfactorily met.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measures **MM 3.3.3a** and **MM 3.3.3b** would reduce potential impacts to a less than significant level by ensuring that impacts on desert tortoise are fully mitigated.

#### Coast Horned Lizard

**Impact 3.3.4** Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to coast horned lizards, which would be considered a **potentially significant** impact.

Suitable habitat for the coast horned lizard occurs within the PSA. In addition, three CNDDB records have been documented within 10 miles of the PSA (CDFW 2013a). The presence of suitable habitat and documented occurrences result in the determination that implementation of project-related activities may result in adverse impacts on this species, should it be present in areas proposed for disturbance. This would be a **potentially significant** impact.

#### Mitigation Measures

**MM 3.3.4** **Coast Horned Lizard Surveys.** Prior to implementation of project-related activities in undisturbed portions of the site, the mine operator shall retain a qualified biologist to determine whether suitable habitat for coast horned lizard occurs within 250 feet of the proposed impact area. If suitable habitat exists, preconstruction surveys must be performed by a qualified biologist in a manner to maximize detection of coast horned lizards (i.e., during warm weather, walking slowly). If any lizards are discovered within the work areas, they shall be actively moved or passively encouraged to leave the work area.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of the above mitigation measure would reduce potential impacts to a **less than significant** level by ensuring that impacts on coast horned lizard are fully mitigated.

### Burrowing Owl

**Impact 3.3.5** Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to burrowing owl. These effects would be considered a **potentially significant** impact.

Focused surveys for this species have not been conducted to date. The presence of potentially suitable habitat and the presence of four CNDDDB records within 5 miles of the project result in the potential for this species to be impacted by project-related activities. This would be a **potentially significant** impact.

#### Mitigation Measures

**MM 3.3.5** **Burrowing Owl Surveys.** If clearing and construction activities will occur in undisturbed portions of the site during the nesting period for burrowing owls (February 1–August 31), the mine operator shall retain a qualified biologist to determine if suitable nesting habitat occurs within 500 feet of the proposed impact area. If suitable habitat exists, focused surveys must be performed by a qualified biologist in accordance with the CDFW’s *Staff Report on Burrowing Owl Mitigation*, published March 7, 2012. Surveys shall be repeated if project activities are suspended or delayed for more than 15 days during nesting season.

If no burrowing owls are detected, no further mitigation is required. If active burrowing owl nest sites are detected, the mine operator shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW’s *Staff Report on Burrowing Owl Mitigation* prior to initiating project-related activities that may impact burrowing owls.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measure **MM 3.3.5** would reduce potential impacts to a **less than significant** level by ensuring that impacts on burrowing owl are fully mitigated.

### Le Conte’s Thrasher and other Migratory Birds

**Impact 3.3.6** Implementation of project-related activities could result loss of populations or essential habitat for Le Conte’s thrasher and other special-status avian species, including raptors. This would be considered a **potentially significant** impact.

The PSA may provide nesting and/or foraging habitat for Le Conte’s thrashers and other migratory birds not identified in **Table 3.3-1**. All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under the MBTA. Vegetation clearing during the nesting season could result in direct impacts on nesting birds should they be present. Furthermore, noise and other human activity may result in nest abandonment if nesting birds are present within 200 feet of a work site. Due to the presence of suitable habitat for these

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species, implementation of project-related activities may result in adverse impacts should they be present in areas proposed for disturbance. This would be a **potentially significant** impact.

#### Mitigation Measures

**MM 3.3.6 Migratory Bird Surveys.** If clearing and/or construction activities will occur in undisturbed portions of the site during the migratory bird nesting season (March 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within 14 days of construction initiation. Focused surveys must be performed by a qualified biologist for the purposes of determining the presence/absence of active nest sites within the proposed impact area and a 200-foot buffer (if feasible).

If active nest sites are identified within 200 feet of project activities, the mine operator shall impose a limited operating period (LOP) for all active nest sites prior to commencement of any project construction activities to avoid construction or access-related disturbances to migratory bird nesting activities. An LOP constitutes a period during which project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur and will be imposed within 100 feet of any active nest sites until the nest is deemed inactive. Activities permitted within and the size (i.e., 100 feet) of LOPs may be adjusted through consultation with the CDFW and/or the County.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measure **MM 3.3.6** would reduce potential impacts to a **less than significant** level by ensuring that impacts on migratory birds are fully mitigated.

#### **Golden Eagle and Other Raptors**

**Impact 3.3.7** Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to golden eagles and other protected raptor species. These impacts would be considered **potentially significant**.

The PSA is located on the north slope of the San Bernardino Mountains, which is characterized by steep slopes, rocky pinnacles, outcrops, rock crevices, rock ledges, cliff potholes, and cliffs. These habitat characteristics provide excellent nest sites for several cliff-nesting raptors, including owls, golden eagles, California condors, peregrine falcons, prairie falcons, and red-tailed hawks. Project activities have the potential to directly or indirectly impact golden eagles and other protected raptor species. This would be a **potentially significant** impact.

Omya and three other mining companies are actively participating in the development of the RCS and have agreed to follow the guidelines outlined in the final document (Eliason 2013). The RCS is intended to be a living document that may be updated over time as new information becomes available and includes monitoring objectives, schedules, and protocols, as well as measures to avoid, minimize, rectify, and reduce effects to nesting raptors along the North



Slope. The following is a summary of the standard design features for mining and other projects on the North Slope, as outlined in the draft RCS.

#### General Design Features (DF)

- DF-1. Participate in the North Slope Raptor Conservation Strategy.
- DF-2. Disturbance footprints for mine operations and development of new quarries and roads shall be limited to the greatest extent possible to the goal of minimizing impacts on adjacent habitat and sensitive biological resources.
- DF-3. Any soil bonding or weighting agents to be used on unpaved surfaces shall be non-toxic to wildlife and plants and non-attractants for wildlife.
- DF-4. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for spill of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials; except as necessary to repair or remove disabled vehicles or equipment, vehicle servicing shall take place only at a designated area.
- DF-5. Maintain facilities and grounds in a manner that minimizes any potential impacts to raptors, predators, and scavengers (e.g., minimize storage of equipment near active quarries that may attract prey, remove trash/garbage daily, etc.). All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site.
- DF-6. No recreational target shooting will occur on National Forest System lands.
- DF-7. The mine operators shall conduct wildlife/plant awareness programs for employees (including new employee orientation and annual refresher trainings). The program will address raptor nest awareness. This will include the importance of avoiding harassment/disturbance, adherence to speed limits, adherence to defined project boundaries, reporting guidelines, etc. The Forest Service will provide assistance in developing the training program.
- DF-8. Avoid practices that attract/enhance prey populations and opportunities for raptor hunting or scavenging near active quarries, haul roads, and processing areas. This would also help discourage the spread of non-native birds; to discourage the spread of disease and pathogens, etc.
- DF-9. Reduce vehicle collision risk to raptors and other scavengers by removing animal carcasses from haul and access roads immediately.
- DF-10. New powerlines should be buried to reduce avian collisions and electrocution. Where it is not possible to bury lines, [mine operators will follow]<sup>2</sup> the Avian Power Line Interaction Committee (APLIC) guidance on power line construction and design (APLIC 2006).

#### Reclamation (RE)

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<sup>2</sup> A suggested modification to the text of DF-10 is shown to extend applicability of this requirement to mine operators.

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The timing and planning of reclamation measures should consider improving or creating suitable foraging and nesting habitat for raptors. These measures may include:

- RE-1. Phase reclamation where possible to re-establish suitable habitat for prey species in areas where mining activities have ceased.
- RE-2. Where perch structures are lacking, consider construction/installation of artificial perches (e.g., poles, rock piles, etc.) for foraging.
- RE-3. Restrict vehicle use and human activity to the extent possible in reclamation areas. Remove and reclaim roads where possible.
- RE-4. Revegetate with local native plant species that are favorable for raptor prey species.
- RE-5. During reclamation, create suitable cover for prey species by considering spatial features on the landscape. Planting in groupings and mosaics and construction of brush and rock piles should be considered.
- RE-6. If natural water sources are lacking in reclamation areas, evaluate the feasibility of artificial water sources (wildlife drinkers, guzzlers, catchment structures, etc.) during the reclamation period.

The following additional protection measures are outlined in the RCS for implementation on an as-needed basis, as determined by SBNF monitoring results. These measures were developed on the premise that because the RCS is “viewed as a long-term management effort with the expectation that the mining operations may exist a century or more after approval, these measures are viewed as a tentative toolbox of possible approaches. Depending on site-specific conditions, one or more of these measures may be appropriate. Alternatively, development of new measures may be more appropriate, especially in response to changes in mining technology, changes in wildlife monitoring/management techniques, and based on a better understanding of the ecology of north slope raptors (Eliason 2013).”

- PM-1. Where nest monitoring detects changes in behavior of nesting raptors associated with blasting activities, use of noise attenuation devices or techniques (e.g., blast mats, different blasting compounds, etc.) would be used during the breeding season. In some cases, if a nest were extremely close (within ½-mile), noise attenuation devices or techniques should be considered without waiting for monitoring results.
- PM-2. Where disturbance or mortality risk is determined to be very high due to close proximity (within ½-mile), a Limited Operating Period (LOP) should be considered with a restriction on blasting (or other activities likely to cause nest abandonment or failure) during the breeding season.
- PM-3. If suitable nesting habitat is degraded to the point that suitable nest sites are a limiting factor, consider construction of artificial nest platforms at suitable sites away from disturbance sources.

#### Mitigation Measures

- MM 3.3.7 Raptor Conservation Strategy.** The applicant shall participate in and implement the Raptor Conservation Strategy.

Implementation of **MM 3.3.7** would effectively reduce project-related impacts on golden eagles and other raptors to a **less than significant** level.

#### **Mule Deer and Bighorn Sheep**

**Impact 3.3.8** Implementation of project-related activities would not result in substantial adverse effects, either directly or through habitat modifications, to mule deer and bighorn sheep. These impacts would be considered **less than significant**.

The major issues and concerns regarding impacts on mule deer resulting from extraction and mineral development outlined in *Habitat Guidelines for Mule Deer in the Southwest Deserts Ecoregion* include direct loss of habitat, physiological stress, disturbance and displacement, habitat fragmentation and isolation, and secondary effects (Heffelfinger et al. 2006). The majority of the area within the project site has already been directly or indirectly affected by previous and ongoing mining activities; therefore, it is presumed that the majority of impacts on this species resulting from habitat loss were incurred as a result of previously authorized mining activities. In addition, the extent and characteristics of the ongoing mining operations (e.g., traffic, equipment and methods used, number of personnel) are not anticipated to change as a result of the proposed project. As a result, it is also presumed that any physiological stress, disturbance, displacement, and habitat fragmentation and isolation were also incurred as a result of previously authorized mining activities. Secondary effects are typically associated with the support and/or service industries (e.g., vehicular traffic and human presence) linked to project-related activities (Heffelfinger et al. 2006). As previously stated, project operations are not expected to expand as a result of the proposed project; therefore, these effects are also presumed to have been incurred as a result of the previously authorized activities.

The potential loss of individuals to mortality related to blasting, vehicle collision, or other mining activities, or as a consequence of decreased access to forage and the population-level impacts on the persistence of the small population of bighorn sheep as a result of loss of individuals are primary concerns regarding the proposed project. A review of available peer-reviewed published literature revealed that surface mining activities do not appear to have a significant adverse impact on bighorn sheep (Jansen et al. 2006, 2007, 2009; Bleich et al. 2008). The three articles published by Jansen et al. were the product of studies conducted on bighorn sheep inside and outside a copper mine in Arizona (2006, 2007, 2009). Landscape features selected by subadult male, adult male, and female bighorn sheep in the active mine site included desert islands (undisturbed areas within the mine site), while subadult males and females also selected highwalls (formed as a byproduct of mining activity) (Jansen et al. 2006). Sheep exhibited similar behavior on desert islands as similar habitats outside the mine site (Jansen et al. 2006). Subadult male and female bighorn sheep fed and were less alert on highwalls than outside the mine perimeter, but social interaction increased, likely due to higher visibility and decreased risk of ambush predation (Jansen et al. 2006, 2007).

In the Jansen et al. 2009 study, home ranges and core areas of bighorn sheep were compared during mine closure and operation. Adult male home ranges and core areas were generally larger or similar in size during both the non-breeding and breeding season during mine closure; however, during breeding season, adult males used the mine site more during operation (Jansen et al. 2009). Female home ranges and core areas were of similar size during both closure and operation; however, females used the mine more during operation than closure. Overall Jansen et al. (2006, 2007, 2009) concluded that bighorn sheep used the mine site more when it was active than when it was inactive and that bighorn sheep may be habituated to the human activities associated mining operations (e.g., traffic, human presence, sounds).

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The study published by Bleich et al. (2009) studied mountain sheep in the vicinity of three highwall limestone mines in San Bernardino County. The purpose of the study was to evaluate factors that influenced habitat use and to investigate the influence of mining activity on sheep distribution. Bleich et al. (2009) concluded that sheep were associated with areas closer to the mine than they were with random points. The alterations to terrain and vegetation that result from mining operations can promote occupancy by bighorn sheep as a result of the reduction of vegetation density that can hide ambush predators, and the creation of steep slopes ( $\geq 27^\circ$  and  $\leq 85^\circ$ ) and rugged escape terrain (Bleich et al. 2009).

Although the PSA is located within the range for both mule deer and bighorn sheep, occurrences are anticipated to be rare and associated with exploratory/breeding movements (Jeff Villepique, pers. Comm.). In addition, portions of the PSA have already been disturbed due to previous/ongoing mining activities, and the level of activity (e.g., traffic, equipment use) is not anticipated to increase. In addition, typical slopes within the PSA would be characterized by 45 to 50 feet vertical bench faces, at an angle averaging around 70 degrees, which is consistent with escape terrain requirements. This information, combined with the data presented above, results in the determination that impacts on mule deer and bighorn will be **less than significant** as a result of project-related activities.

#### Mitigation Measures

None required.

#### **Special-Status Bats**

**Impact 3.3.9** Implementation of project-related activities could result in the loss of populations or essential habitat for special-status bat species, which would be considered a **potentially significant** impact.

Bats roost in a wide variety of habitats, including buildings, mines, under bridges, rock crevices, caves, under tree bark, and in snags. The western mastiff bat and Townsend's big-eared bat are considered California species of special concern. These species may utilize a variety of habitats and structures throughout the PSA, as well as in adjoining off-site areas, for roosting and foraging. Suitable roosting habitat for these species includes in trees under bark, in snags, and in caves. The disturbance of active maternity roosts would affect the reproductive success of the species, as young do not fly from the maternity roost until they reach several months in age (CDFW 2013d). Construction of the proposed project could disturb roosting bats and thus eliminate future roosting opportunities.

Construction of the project would require the removal of habitat that could provide roosting for these special-status bat species. Removal of this habitat would be considered a direct and significant impact if special-status bat species were taken or deterred from roosting. Construction and operation of the project could also result in noise, dust, and other indirect disturbances to wildlife in the project vicinity. This would be a **potentially significant** impact.

#### Mitigation Measures

**MM 3.3.9** **Bat Surveys.** Prior to implementation of project-related activities in undisturbed portions of the site, the mine operator shall retain a qualified biologist to determine whether potential roosting sites for special-status bats may be affected. If potential roost sites are identified, a preconstruction survey by a qualified biologist shall be conducted prior to the end of April to determine

the presence or absence of roosting bats. If the survey does not identify the presence of occupied roosts, no further mitigation is required.

If day roosts or maternity roosts occupied by special-status bat species are documented within construction areas, the bats shall be safely flushed from the sites where roosting habitat is planned to be removed prior to May of each construction phase (maternity roosts are generally occupied from May to August) and prior to the onset of construction activities. The removal of the roosting sites shall occur during the time of day when the roost is unoccupied. The loss of each roost will be compensated for by the construction and installation of two bat boxes suitable to the bat species and colony size excluded from the original roosting site. The bat boxes shall be installed in the vicinity prior to removal of the original day/maternity roost sites. A detailed program for bat flushing, roosting site removal, and installation of bat boxes shall be developed in consultation with a qualified biologist.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measure **MM 3.3.9** will reduce potential impacts to a **less than significant** level by ensuring that impacts on special-status bats are fully mitigated.

#### **Pallid San Diego Pocket Mouse**

**Impact 3.3.10** Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modification, to the pallid San Diego pocket mouse. These effects would be considered a **potentially significant** impact.

The PSA may provide suitable habitat for the pallid San Diego pocket mouse, which is a California species of special concern. In addition, there are two CNDDDB occurrence records within 1 mile of the PSA. Due to the presence of suitable habitat for this species, implementation of project-related activities may result in adverse impacts should individuals be present in areas proposed for disturbance, which would be a **potentially significant** impact.

#### Mitigation Measures

**MM 3.3.10** **Pallid San Diego Pocket Mouse Surveys.** Prior to implementation of project-related activities in undisturbed portions of the site, the mine operator shall retain a qualified biologist to determine if suitable habitat for this species occurs within 250 feet of the proposed impact area. If suitable habitat exists, preconstruction surveys must be performed by a qualified biologist in a manner to maximize detection of pallid San Diego pocket mice. If any mice are discovered within the work areas, they shall be actively moved or passively encouraged to leave the work area.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

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*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measure **MM 3.3.10** will reduce potential impacts to a **less than significant** level by ensuring that impacts on pallid San Diego pocket mice are fully mitigated.

#### **Impacts on Riparian Habitat or Sensitive Natural Communities (Standard of Significance 2)**

**Impact 3.3.11** Implementation of project activities could result in the loss of riparian vegetation and/or sensitive natural communities, which would be considered a **potentially significant** impact.

Sensitive habitats include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the FGC, and Section 404 of the CWA. Project-related activities have the potential to substantially adversely affect riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS. Impacts on these resources would be considered a **potentially significant** impact.

Implementation of project activities may result in adverse impacts on riparian and aquatic communities should they be present in areas proposed for disturbance. Based on the data provided in the jurisdictional delineation report provided by Tetra Tech (2013), 0.003 acre of wetland and 6,469 linear feet (1.355 acre) of jurisdictional drainage occur within the limits of planned disturbance and therefore have the potential to be impacted by project-related activities (**Figure 3.3-2**). In addition, 10 ephemeral dry washes (**Figure 3.3-1b**) were identified on the CDFW California Streams (CA\_Streams) data layer as intersecting the haul road; however, this number may increase once a formal field delineation is completed. In any event, the repairs and remediation to control runoff and sedimentation along the haul road required in the BLM/CDFW 2011 Settlement Agreement have the potential to impact riparian habitat.

#### Mitigation Measures

**MM 3.3.11** **No Net Loss of Riparian Vegetation.** The mine operator shall ensure there is no net loss of riparian vegetation. Mitigation can include on-site restoration or purchase of mitigation credits at a USACE-approved mitigation bank, placing a conservation easement over a riparian area, or quit claiming mineral claims over a riparian area. Mitigation, as required in regulatory permits issued through the CDFW, the USACE, or the RWQCB, may be applied to satisfy this measure.

Evidence of compliance with this mitigation measure shall be provided prior to construction and grading activities for the proposed project.

*Timing/Implementation:* Ongoing during quarry and reclamation activities

*Enforcement/Monitoring:* San Bernardino County Land Use Services Department

Implementation of mitigation measure **MM 3.3.11** will ensure that impacts on riparian or sensitive natural communities are **less than significant** by ensuring that impacts on these communities are fully mitigated.

#### **Impacts on Federally Protected Wetlands (Standard of Significance 3)**

**Impact 3.3.12** Implementation of project activities would not result in the disturbance, degradation, and/or removal of federally protected wetlands. **No impact** would occur.

The PSA contains several ephemeral dry washes and three small desert riparian wetlands. The USACE asserts jurisdiction over all waters that are defined as traditional navigable waters (USACE 2007). Field observations and review of relevant aerial photographs and topographic maps confirm that the unnamed drainages within the PSA terminate in Rabbit Lake (dry) found to the north of the PSA. A recent approved jurisdictional determination (AJD) dated April 30, 2013, was issued by the USACE for the Marathon Solar Project located southeast of the PSA on the west side of Camp Rock Road, north of State Route 247 (USACE 2013). The drainages associated with this project terminate in Lucerne Lake (dry), which is east of Rabbit Lake. The AJD for the Marathon Solar Project concluded that the on-site drainages are isolated and are not subject to USACE regulation under Section 404 of the Clean Water Act. The Marathon Solar Project AJD indicates that Rabbit Lake and Lucerne Lake are part of the same depositional environment and are both located in the Lucerne Valley Groundwater Basin Este Subarea. Based on the approved jurisdictional determination issued for the solar project that shares the same watershed as the PSA drainages, it is likely that jurisdictional drainages within the PSA are isolated and not subject to USACE jurisdiction. As a result, the project is anticipated to have **no impact** on federally protected wetlands.

#### Mitigation Measures

None required.

#### **Impacts on Wildlife Movement (Standard of Significance 4)**

**Impact 3.3.13** Implementation of the proposed project would not interfere with the movement of native resident or migratory wildlife species. This would be considered a **less than significant** impact.

Portions of the PSA have been disturbed by previous and ongoing mining operations; however, the undisturbed portions around the perimeter and off-site could facilitate regional wildlife movement. Available data on movement corridors and linkages was accessed via the CDFW BIOS Viewer. Data reviewed included the Essential Connectivity Areas [ds623] layer and the Missing Linkages in California [ds420] layer. The PSA is located north of an Essential Connectivity Area and approximately 2.5 miles east of a linkage for bighorn sheep in the Missing Linkages layer. In addition, the San Bernardino County General Plan Open Space Overlay Map was reviewed to determine whether the PSA was located within an identified wildlife corridor. The PSA is not located within an identified corridor; however, it is located east of the Deep Creek wildlife corridor, north of the Bear Creek corridor, and west of the Grapevine Creek corridor. In addition, as described under **Impact 3.3.8** above project-related activities are anticipated to have a less than significant impact on mule deer and bighorn sheep. As a result, impacts on the movement of native resident or migratory wildlife species will be **less than significant** as a result of project-related activities.

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#### Mitigation Measures

None required.

#### **Conflict with Local Policies and Ordinances (Standard of Significance 5)**

**Impact 3.3.14** Implementation of project activities would not conflict with local policies and ordinances. **No impact** would occur.

The County of San Bernardino Development Code includes Section 88.01.060 (Desert Native Plant Protection Ordinance) and Section 88.01.080 (Riparian Plant Conservation). The Desert Native Plant Protection ordinance provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation of desert resources. The provisions in this ordinance are intended to augment and coordinate with the Desert Native Plants Act (Food and Agricultural Code Section 80001 et seq.) and the efforts of the California Department of Food and Agriculture to implement and enforce the act. The Riparian Plant Conservation ordinance provides regulations for the removal of vegetation within 200 feet of the bank of a stream or in an area indicated as protected riparian habitat on an overlay map or specific plan. Development of the proposed project would be required to be consistent with all local policies and ordinances protecting biological resources. Therefore, **no impact** would occur with regard to consistency with local ordinances or policies protecting biological resources.

#### Mitigation Measures

None required.

#### **Conflict with Conservation Plans (Standard of Significance 6)**

**Impact 3.3.15** Implementation of the proposed project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. This would be considered a **less than significant** impact.

The Carbonate Habitat Management Strategy (CHMS) is the only adopted conservation plan to which the proposed project would be subject. On April 29, 2003, the US Forest Service, Bureau of Land Management, San Bernardino County, and mining stakeholders, including Omya, executed a Memorandum of Understanding whereby all parties agreed to implement the terms of the CHMS in regard to future mining proposals (**EIR Appendix D**). In 2005, the USFWS issued a Programmatic Biological Opinion (BO) for the CHMS concluding that compliance with the terms of the CHMS would not result in jeopardy to the continued existence of plant species covered under the CHMS and would promote the recovery of the species.

The CHMS is a collaborative strategy to facilitate the preservation and recovery of carbonate plant species, while providing a method for mining projects to obtain Endangered Species Act compliance. The CHMS proposes multiple methods of permanent habitat conservation, including federal land use designations, federal purchases of private property, land exchanges, relinquishment of unpatented mining claims, and/or execution of a conservation easement or surface use restrictions coupled with a mineral withdrawal. Mining interests obtain ESA compliance under the Carbonate Habitat Management Strategy by contributing enough land to the habitat reserve to offset impacts on habitat on land to be mined. The CHMS assigns conservation values to each parcel of property or mining claim based on a series of criteria



including whether the habitat is occupied, suitable, revegetated, or provides other beneficial habitat, which is then assigned a multiplier based on the number of carbonate plant species present. To adequately mitigate for project impacts, mitigation lands must be permanently conserved at a compensation ratio of 3:1. Before any mining activity can be allowed under the CHMS, the mine operator must add land worth 3 units of conservation value to the habitat reserve for each unit of conservation value to be lost to the proposed mining activity.

Participation in and implementation of the CHMS will effectively reduce project-related impacts on carbonate plants to a **less than significant** level.

#### Mitigation Measures

None required.