

### 3.3.4 Animal Species

#### **Regulatory Setting**

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.3.5. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act (NEPA)
- Migratory Bird Treaty Act (MBTA)
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act (CEQA)
- Sections 1600 – 1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

#### **Affected Environment**

Information in this section comes from the *Natural Environment Study* (June 2014).

A list of 61 wildlife species was observed, or detected by their sign, in the Biological Study Area (BSA) and are included in Appendix J – Wildlife Compendium of the *Natural Environment Study*. This is a comprehensive list of all wildlife observed on all site visits, general studies, and focused surveys. Species observed include 42 bird species, 12 mammal species, and 7 reptile species.

A total of 39 special-status animal species were identified as occurring within the vicinity of the proposed project site. Of those, 26 species were observed or have a potential to occur within the project limits due to habitat suitability, as noted in Table 2: Special-status Species with Potential for Occurrence of the *Natural Environment Study*. Listed special-status species are discussed in Section 3.3.5.

Nineteen (19) nonlisted special-status wildlife species have the potential to occur within the BSA and were evaluated in the *Natural Environment Study*, as listed in Table 3.3.4-1.

**Table 3.3.4-1 Special-Status Wildlife Species  
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
<i>Accipiter cooperii</i> Cooper's hawk	CDFW: WL MBTA	Woodland and semi-open habitats, riparian groves, and mountain canyons.	Suitable foraging habitat present. None observed during site visits. Moderate potential for occurrence.
<i>Agelaius tricolor</i> Tricolored blackbird	CDFW: SSC, BLM: S MBTA	Lowland species, breeding in freshwater marshes with tall emergent vegetation, in upland habitats (especially thickets of non-native Himalayan blackberry), and in silage fields. Forages in agricultural areas where livestock is present and grass is short.	Suitable habitat present. Present. Observed during site visits.
<i>Circus cyaneus</i> Northern harrier	CDW: SSC MBTA	Coastal salt and fresh water marsh. Nest and forages in grassland from saltgrass in desert sink to mountain cienagas. Also nests on ground in shrubby vegetation.	Suitable foraging habitat present. Observed during site visits.
<i>Athene cunicularia</i> Burrowing owl	CDFW: SSC, BLM: S MBTA	Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports. Resident over most of southern California (sparsely distributed over desert areas).	Suitable nesting and foraging habitat present. Observed during site surveys.
<i>Asio flammeus</i> Short-eared owl	CDFW: SSC MBTA	Found in fresh and salt swampland, lowland meadows, irrigated alfalfa fields. Nests on dry ground concealed by vegetation.	Suitable foraging habitat present. Observed during site surveys.
<i>Charadrius montanus</i> Mountain plover	CDFW: SSC, BLM: S MBTA	Nests in heavily grazed, shortgrass prairie, xeric scrub and fallow fields. A dietary generalist in winter when it inhabits semi-desert, dry, bare agricultural land and breeding-type habitats.	Suitable habitat present. None observed during site visits. High potential for occurrence.

**Table 3.3.4-1 Special-Status Wildlife Species  
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
<i>Falco mexicanus</i> Prairie falcon	CDFW: WL MBTA	Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Throughout the desert and arid interior portions of coastal countries. Uncommon resident in southern California.	Suitable foraging habitat present. None observed during site visits. Potential for occurrence.
<i>Icteria virens</i> Yellow-breasted chat	CDFW: SSC MBTA	Found in dense second-growth, riparian thickets and brush. Also found in abandoned farmland and other rural areas where overgrown vegetation proliferates.	Suitable habitat present in Mojave River. None observed during site visits. Moderate potential for occurrence.
<i>Lanius ludovicianus</i> Loggerhead shrike	CDFW: SSC MBTA	Semi-open areas, nesting in trees and shrubs.	Suitable habitat present. Observed during site visits.
<i>Piranga rubra</i> Summer tanager	CDFW: SSC MBTA	Occur along streams among willows, cottonwoods, mesquite, or saltcedar.	Suitable habitat in Mojave River. Observed in Mojave River during site visits.
<i>Toxostoma lecontei</i> Le Conte's thrasher	CDFW: SSC MBTA	Inhabits sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having a high proportion of saltbush ( <i>Atriplex</i> spp.) or cholla ( <i>cylindrical Opuntia</i> spp.), often occurring along small washes or sand dunes. Prefers dense thorny shrubs (most often saltbush or cholla) for nesting. Uncommon and local resident in low desert scrub throughout most of the Mojave Desert. Breeding range into eastern Mojave,	Suitable habitat present. Observed during focused surveys.
<i>Setophaga petechia</i> Yellow Warbler	CA: SSC MBTA	Riparian plant associations, prefer willows, cottonwood, aspen, sycamore and alder trees for nesting and foraging.	Suitable habitat in Mojave River. Present. Observed in Mojave River during site visits.

**Table 3.3.4-1 Special-Status Wildlife Species  
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
<i>Eumops perotis californicus</i> Western mastiff bat	CDFW: SSC, BLM: S	Primarily cliff-dwelling mammal that occurs in dry desert washes, floodplains, chaparral, oak woodlands, open ponderosa pine forests, grasslands, and montane meadows.	Suitable habitat present. Foraging habitat present. Moderate potential for occurrence.
<i>Microtus californicus mohavensis</i> Mojave River vole	CDFW: SSC	Weedy herbaceous growth in wet areas along the Mojave River, and possibly in some nearby irrigated pastures.	Suitable habitat present. Moderate potential for occurrence.
<i>Myotis yumanensis</i> Yuma myotis	BLM: S, WBWG: LM	Occasionally roosting in mines or caves, but often found in buildings or bridges. Bachelors sometimes roost in abandoned cliff swallow nests.	Suitable foraging habitat present. Moderate potential for occurrence.
<i>Neotoma lepida intermedia</i> San Diego Desert Woodrat	CDFW: SSC	Found in southern California inhabiting Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Nest middens are built against a rock crevice, at the base of creosote or cactus or in the lower branches of trees.	Suitable habitat present. Present. Observed during MGS trapping surveys.
<i>Taxidea taxus</i> American badger	CDFW: SSC	Prefers open areas and may frequent brushlands with little groundcover. Inhabits regions ranging from below sea level to elevations upwards of 3,600 meters.	Suitable habitat present. Present. Observed during site visits.
<i>Anniella pulchra pulchra</i> Silvery legless lizard	CDFW: SSC, USFS: S	Occurs in moist warm loose soil with plant cover. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Found from 0 to 5,900 feet elevation.	Suitable habitat present. Known to occur in vicinity of project. High potential for occurrence.

**Table 3.3.4-1 Special-Status Wildlife Species  
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
<i>Phrynosoma blainvillii</i> Coast horned lizard	CDFW: SSC, BLM: S, USFS: S	Occurs in annual grassland, coastal sage scrub, chaparral, and woodland communities. Prefers open country, especially sandy areas, washes, and floodplains.	Suitable habitat present. Present. Observed during focused surveys.
<b>Designations:</b>			
US – United States		CDFW: SSC – Species of Special Concern	
CA – California		CDFW: FP – Fully Protected	
FE – Federally Endangered		CDFW: WL – Watch List	
FT – Federally Threatened		BLM : S – Sensitive	
SE – State Endangered		USFS: S – Sensitive	
ST – State Threatened			
MBTA – Migratory Bird Treaty Act			

Source: Natural Environment Study, 2014.

### Reptiles

Silvery legless lizard (*Anniella pulchra pulchra*) is known to occur in numerous locations within the vicinity of the project site. Suitable habitat for the coast horned lizard (*Phrynosoma blainvillii*) is present, and several individuals were observed within the limits of the project on site visits.

### Birds

Suitable habitat for Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), tricolored blackbird (*Agelaius tricolor*), and short-eared owl (*Asio flammeus*) exists within the project area, and individuals of these species were seen during site visits.

Short-eared owl, mountain plover (*Charadrius montanus*), prairie falcon (*Falco mexicanus*), yellow-breasted chat (*Icteria virens*), loggerhead shrike (*Lanius ludovicianus*), summer tanager (*Piranga rubra*), Le Conte's thrasher (*Toxostoma lecontei*), and yellow warbler (*Setophaga petechia*) were not observed during site visits; however, suitable habitat for these species is present, and these species could occur on the project site in the future during the construction phase.

Burrowing owl (*Athene cunicularia*) habitat assessment surveys were conducted throughout the BSA. Several individuals, sign of scat, and sign of active burrows were observed throughout much of the project site.

### Mammals

No observations of the western mastiff bat (*Eumops perotis californicus*), Yuma myotis (*Myotis yumanensis*), and Mojave river vole (*Microtus californicus*)

*mohavensis*) were recorded during site visits; however, suitable habitat for these species is present within the project area. Both the San Diego desert woodrat (*Neotoma lepida intermedia*) and American badger (*Taxidea taxus*) were observed during site visits.

### **Environmental Consequences**

For the purpose of avoiding redundancy, when discussing project impacts, it should be known that the Freeway/Expressway Alternative, Freeway/Tollway Alternative, Freeway/Expressway Alternative with the HSR Feeder Service, and the Freeway/Tollway Alternative with the HSR Feeder Service are discussed collectively because the impacts amount to the same in the main alignment/common areas. However, it is the variations and options that differ in impacts to animal species; thus, they are each broken down and discussed (see Figure 3.3-1 Alignment Key Map for Biological Study Area).

#### **No Build Alternative**

Because no ground disturbance would occur under the No Build Alternative, there would be no impacts to special-status wildlife species.

#### **Build Alternatives**

##### **Reptiles**

**Silvery legless lizard** (*Anniella pulchra pulchra*): Silvery legless lizard is known to occur in numerous locations within the vicinity of the project site. Observations are within the same habitat type found within the project limits within 0.5 mile of the site. Avoidance and minimization measures BAN-1 and BAN-5 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Coast horned lizard** (*Phrynosoma blainvillii*): Suitable habitat for this species is present, and several individuals were observed within the limits of the project on site visits. It is expected that the number of individuals found would be equal to those of the surrounding area. Avoidance and minimization measures BAN-1 and BAN-5 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

#### **Freeway/Expressway and Freeway/Tollway Alternatives**

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for these species will occur to a lesser extent because of the reduced area of impact.

#### **Main Alignment/Common Areas**

Within the BSA of the main alignment common areas, impacts to silvery legless lizard and coast horned lizard have the potential to occur. Silvery legless lizard and coast horned lizard habitat occurs throughout the proposed project corridor. Impacts to this species are expected to occur due to clearing and grubbing activities associated

of the proposed project. With the incorporation of minimization measures, the impacts to individuals of this species are expected to be low.

#### *Variation A*

Potential impacts to the silvery legless lizard and coast horned lizard may occur with the implementation of the main alignment corridor corresponding to Variation A (a so-called Variation A Main alignment). The preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures, impacts to these species are expected to be low. Variation A Main alignment would result in fewer acres of permanent and temporary impacts to habitat compared to the Variation A alignment.

Variation A alignment contains potential habitat for the silvery legless lizard and coast horned lizard and, if implemented, it would potentially cause impacts to these species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to these species is expected to be low. However, Variation A alignment requires considerably more acres of temporary and permanent impacts to habitat compared to Variation A Main alignment; therefore, the potential impacts to these species and habitat is slightly higher if Variation A alignment is chosen as the preferred alternative.

#### *Variation B*

The main alignment corridor corresponding to Variation B (a so-called Variation B Main alignment) includes areas that are potential habitat to the silvery legless lizard and coast horned lizard, and with the implementation of this alignment, impacts may occur. However, with the avoidance and minimization measures mentioned above, impacts are expected to be low. Variation B Main alignment has the potential to have impact on habitat to a lesser extent than Variation B alignment and Variation B1 alignment, because this option traverses less open space than these variations and, at one location, bisects farmland rather than suitable habitat.

Variation B alignment contains potential habitat for the silvery legless lizard and coast horned lizard and, if implemented, it could potentially cause impacts to these species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to these species is expected to be low; however, Variation B alignment requires considerably more acres of temporary and permanent impacts to habitat compared to Variation B Main alignment and Variation B1 alignment, due to its alignment encompassing a greater distance.

Potential impacts to the silvery legless lizard and coast horned lizard may occur with the implementation of Variation B1 alignment. The preferred habitat type is known to occur within the limits of this variation; however, with avoidance and minimization measures, impacts to these species would be minor. This variation would require slightly more acres of permanent and temporary impacts to habitat than Variation B Main alignment because it runs through open space, whereas Variation B Main

alignment bisects farmland at one location. If Variation B1 alignment was selected as the preferred alternative, it would require fewer acres of permanent and temporary impacts to habitat compared to Variation B alignment.

#### *Variation D*

Potential impacts to the silvery legless lizard and coast horned lizard may occur with the implementation of the main alignment corridor corresponding to Variation D (a so-called Variation D Main alignment). The preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures, impacts to this species would be minor. If Variation D Main alignment was selected as the preferred alternative, it would require fewer acres of permanent and temporary impacts to habitat compared to Variation D alignment, due to traversing a shorter distance.

Variation D alignment contains potential habitat for the silvery legless lizard and coast horned lizard and, if implemented, it would potentially cause impacts to these species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to these species is expected to be low; however, Variation D alignment requires considerably more acres of temporary and permanent impacts to habitat compared to Variation D Main alignment, due to its alignment encompassing a greater distance. Much of this alignment includes open space, which is one of the preferred habitats of the silvery legless lizard and coast horned lizard.

#### *Variation E*

Potential habitat for the silvery legless lizard and coast horned lizard occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to these species. With avoidance and minimization measures, impacts to this species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Highway Only and Variation E with Rail XpressWest Connection; therefore, it would have less of an impact to habitat if implemented.

Variation E Highway Only alignment includes areas that are potential habitat to the silvery legless lizard and coast horned lizard, and with the implementation of this variation, impacts to these species may occur; however, with avoidance and minimization measures, impacts are expected to be low. Variation E Highway Only has the potential to have impact on habitat to a greater extent than Variation E Main alignment, because this option traverses more open space in comparison; however, Variation E Highway Only has less of an impact than Variation E with Rail XpressWest Connection.

#### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

Impacts with the Freeway/Expressway and Freeway/Tollway with HSR Alternatives are generally the same with the exception of the variations described below. The

Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to scrubland habitat for these species will be higher in comparison. The HSR Alternative increases the potential impact to this species proportional to the increase in scrubland community impacts. In addition to this, the HSR spur in Victorville that departs from the highway alignment would be an additional impact for this alternative affecting approximately 85 acres of scrubland habitat, and thus result in increased impacts to habitat for these species.

#### *Rail Option 1*

Rail Option 1 includes areas that are potential habitat to the silvery legless lizard and coast horned lizard, and with the implementation of this option, impacts to the silvery legless lizard and coast horned lizard may occur; however, with avoidance and minimization measures, impacts are expected to be low. Rail Option 1 has the potential to have impact on habitat to a greater extent than Rail Option 7, because this option traverses more open space than Rail Option 7; however, this option runs through the outskirts of urbanized areas within Palmdale, which is considered to be marginal quality habitat. Rail Option 1 also requires more acreage of permanent and temporary impacts to preferred habitat compared to Rail Option 7.

#### *Rail Option 7*

Rail Option 7 includes areas that are potential habitat to the silvery legless lizard and coast horned lizard, and with the implementation of this option, impacts may occur; however, with avoidance and minimization measures, impacts are expected to be low. Rail Option 7 has the potential to have impact on habitat to a lesser extent than Rail Option 1. This option traverses less open space and is within the outskirts of urbanized areas near Palmdale, which are of marginal quality habitat.

#### *Variation E with Rail XpressWest Connection*

Variation E with Rail XpressWest Connection alignment contains potential habitat for the silvery legless lizard and coast horned lizard and, if implemented, it would potentially cause impacts to this species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to these species is expected to be low; however, Variation E with Rail XpressWest Connection requires considerably more acres of temporary and permanent impacts to habitat compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area with more open space.

#### *Birds*

**Cooper's hawk** (*Accipiter cooperii*): Suitable habitat for this species is present, and one individual was observed within the limits of the project on site visits. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Northern harrier** (*Circus cyaneus*): Suitable habitat for this species is present, and one individual was observed within the limits of the project on site visits. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Tricolored blackbird** (*Agelaius tricolor*): Suitable foraging habitat for this species is present within the project limits, and this species was seen in a flock on several surveys. Nesting habitat occurs outside the project limits. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Short-eared owl** (*Asio flammeus*): Suitable habitat for this species is present, and one individual was observed within the limits of the project on site visits. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Mountain plover** (*Charadrius montanus*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present, and this species could occur on the project site in the future during construction phase. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Prairie falcon** (*Falco mexicanus*): Suitable habitat for this species is present, and one individual was observed within the limits of the project during site visits. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Yellow-breasted chat** (*Icteria virens*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present, and this species could occur on the project site in the future during construction phase. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Loggerhead shrike** (*Lanius ludovicianus*): Suitable habitat for this species is present, and individuals were observed within the limits of the project on site visits. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Le Conte's thrasher** (*Toxostoma lecontei*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present,

and this species could occur on the project site in the future during the construction phase. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

Implementation of the proposed project has the potential to impact these species during the construction phase of this project. Because these species have the ability to fly away, direct impacts to individual adults are not expected during the construction phase of this project. Potential exists for impacts to nesting birds should they be present. With the implementation of avoidance and minimization measures, impacts to these species will be minimized.

#### ***Freeway/Expressway and Freeway/Tollway Alternatives***

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for these species will occur to a lesser extent because of the reduced area of impact.

#### ***Main Alignment/Common Areas***

Within the BSA of the main alignment common areas, impacts to the above-listed species have the potential to occur. Foraging and nesting habitat occurs throughout the proposed project corridor. Impacts to these species are expected to occur due to clearing and grubbing activities associated with the implementation of the proposed project. With the incorporation of minimization measures, the impacts to individuals of these species are expected to be low.

#### ***Variation A***

Potential impacts to the above-listed species may occur with the implementation of the main alignment corridor corresponding to Variation A (a so-called Variation A Main alignment). Foraging and nesting habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures, impacts to these species are expected to be low. Variation A Main alignment would require fewer acres of permanent and temporary impacts to foraging and nesting habitat compared to the Variation A.

Variation A alignment contains potential habitat for the above-listed species and, if implemented, it would potentially cause impacts to these species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities and avoiding construction during nesting season, impacts to these species are expected to be low. However, Variation A alignment requires considerably more acres of temporary and permanent impacts to foraging and nesting habitat of compared to Variation A Main alignment; therefore, potential impacts to these species and foraging and nesting habitat are slightly higher.

### *Variation B*

The main alignment corridor corresponding to Variation B (a so-called Variation B Main alignment) includes areas that are potential habitat to the above-listed species, and with the implementation of this alignment, impacts to these species may occur; however, with avoidance and minimization measures, impacts are expected to be low. Variation B Main Alignment has the potential to have impact on habitat to a lesser extent than Variation B and Variation B1, because this option traverses less open space than these variations and, at one location, bisects farmland rather than suitable habitat.

Variation B alignment contains potential foraging and nesting habitat for the above-listed species and, if implemented, it could potentially cause impacts to these species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities, impacts to these species are expected to be low; however, Variation B alignment requires considerably more acres of temporary and permanent impacts to foraging and nesting habitat compared to Variation B Main alignment and Variation B1, due to its alignment encompassing a greater distance.

Potential impacts to the above-listed species may occur with the implementation of Variation B1 alignment. Foraging and nesting habitat is known to occur within the limits of this variation; however, with avoidance and minimization measures, impacts to these species would be minor. This variation would require slightly more acres of permanent and temporary impacts to foraging and nesting habitat than Variation B Main alignment because it runs through open space, whereas Variation B Main alignment bisects farmland at one location.

### *Variation D*

Potential impacts to the above-listed species may occur with the implementation of the main alignment corridor corresponding to Variation D (a so-called Variation D Main alignment). Foraging and nesting habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures, impacts to these species would be minor. Variation D Main alignment would require fewer acres of permanent and temporary impacts to foraging and nesting compared to Variation D, due to traversing a shorter distance.

Variation D alignment contains potential habitat for the above-listed species and, if implemented, it would potentially cause impacts to these species. With avoidance and minimization measures, such as avoiding construction during nesting season, impacts to these species are expected to be low; however, Variation D alignment requires considerably more acres of temporary and permanent impacts to foraging and nesting habitat compared to Variation D Main alignment, due to its alignment encompassing a greater distance. Much of this alignment includes undisturbed space, which is a higher quality habitat for these species.

### *Variation E*

Potential habitat for the above-listed species occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to these species. With avoidance and minimization measures, impacts to these species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Highway Only and Variation E with Rail XpressWest Connection; therefore, it would have less of an impact to foraging and nesting habitat if implemented.

Variation E Highway Only alignment includes areas that are potential foraging and nesting habitat to the above-listed species, and with the implementation of this variation, impacts may occur; however, with avoidance and minimization measures, impacts to are expected to be low. Variation E Highway Only alignment has the potential to have impact on foraging and nesting habitat to a greater extent than Variation E Main alignment, because this option traverses more open space in comparison; however, Variation E Highway Only has less of an impact than Variation E with Rail XpressWest Connection.

### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

Impacts with the Freeway/Expressway and Freeway/Tollway with HSR alternatives are generally the same with the exception of the variations described below. The Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to habitat for these species will be higher in comparison. The alternatives with HSR increase the potential impact to this species proportional to the increase in scrubland community impacts. In addition to this, the HSR spur in Victorville that departs from the highway alignment would be an additional impact for this alternative, affecting approximately 85 acres of scrubland habitat, and thus result in increased impacts to habitat for these species.

### *Rail Option 1*

Rail Option 1 includes areas that are potential habitat to the above-listed species, and with the implementation of this option, impacts may occur; however, with avoidance and minimization measures, impacts are expected to be low. Rail Option 1 has the potential to have impact on foraging and nesting habitat to a greater extent than Rail Option 7, because this option traverses more open space than Rail Option 7; however, this option runs through the outskirts of urbanized areas within Palmdale, which is considered to be marginal quality habitat. Rail Option 1 also requires more acreage of permanent and temporary impacts to preferred foraging and nesting habitat compared to Rail Option 7.

### *Rail Option 7*

Rail Option 7 includes areas that are potential habitat to the above-listed species, and with the implementation of this option, impacts may occur; however, with avoidance and minimization measures, impacts are expected to be low. Rail Option 7 has the

potential to have impact on habitat to a lesser extent than Rail Option 1. This option traverses less open space and is within the outskirts of urbanized areas near Palmdale, which are of marginal quality habitat.

#### *Variation E with Rail XpressWest Connection*

Variation E with Rail XpressWest Connection alignment contains potential habitat for the above-listed species and, if implemented, it would potentially cause impacts to these species. With avoidance and minimization measures, such as having a biological monitor present for clearing, impacts to these species are expected to be low; however, Variation E with Rail XpressWest Connection alignment requires considerably more acres of temporary and permanent impacts to foraging and nesting habitat compared to Variation E Main alignment and Variation E Highway Only, due to the alignment encompassing a larger area with more open space.

**Burrowing owl (*Athene cunicularia*):** Burrowing owl habitat assessment surveys were conducted throughout the BSA. Several individuals, sign of scat, and sign of active burrows were observed throughout much of the project site. For areas of suitable habitat and observation locations, refer to the burrowing owl habitat assessment reports in Appendix E of the *Natural Environment Study*. Sign or individuals were detected in eastern Palmdale, near the county line, and near the HSR line north and east of the Mojave River. Additional phase burrowing owl surveys were not conducted at the time of this writing (August 2014), so an exact number of individuals or pairs occurring within the project limits is unknown.

It is expected that because burrowing owl are known to migrate and occupancy of any particular area can change from time to time for several reasons, additional surveys will be required within 1 year prior to construction. The purpose of the survey would be to determine the number of pairs or individuals within the impact limits for mitigation calculation. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

#### *Freeway/Expressway and Freeway/Tollway Alternatives*

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for this species will occur to a lesser extent because of the reduced area of impact.

#### *Main Alignment/Common Areas*

Within the BSA of the main alignment common areas, impacts to burrowing owl have the potential to occur. Burrowing owl habitat occurs throughout the proposed project corridor, within dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports. Impacts to this species are expected to occur due to clearing and grubbing activities associated with implementation of the proposed project. With the incorporation of minimization measures, impacts to individuals of this species are expected to be low.

#### *Variation A*

Potential impacts to the burrowing owl may occur with the implementation of the main alignment corridor corresponding to Variation A (a so-called Variation A Main alignment). The burrowing owl's preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures, impacts to this species are expected to be low. Variation A Main alignment would require fewer acres of permanent and temporary impacts to dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports compared to the Variation A alignment because it traverses less distance along existing roadways.

Variation A alignment contains potential habitat for the burrowing owl and, if implemented, it would potentially cause impacts to this species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation A alignment requires considerably more acres of temporary and permanent impacts to dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports compared to Variation A Main alignment. Therefore, potential impacts to this species and its habitat are slightly higher with the implementation of this variation.

#### *Variation B*

The main alignment corridor corresponding to Variation B (a so-called Variation B Main alignment) includes areas that are potential habitat to the burrowing owl, and with the implementation of this alignment, impacts to the burrowing owl may occur; however, with avoidance and minimization measures, impacts to burrowing owl are expected to be low. Variation B Main alignment has the potential to have impact on burrowing owl habitat to a lesser extent than Variation B and Variation B1, because this option traverses less open space than these variations and, at one location, bisects farmland rather than suitable habitat.

Variation B contains potential habitat for the burrowing owl and, if implemented, it could potentially cause impacts to this species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation B requires considerably more acres of temporary and permanent impacts to dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports compared to Variation B Main alignment and Variation B1 alignment, due to its alignment encompassing a greater distance.

Potential impacts to the burrowing owl may occur with the implementation of Variation B1 alignment. The burrowing owl's preferred habitat type is known to occur within the limits of this variation; however, with avoidance and minimization measures, impacts to this species would be minor. This variation would require slightly more acres of permanent and temporary impacts to burrowing owl habitat

than Variation B Main alignment because it runs through open space, whereas Variation B Main alignment bisects farmland at one location. Variation B1 alignment would require fewer acres of permanent and temporary impacts to brushlands with little groundcover compared to Variation B alignment.

#### *Variation D*

Potential impacts to the burrowing owl may occur with the implementation of the main alignment corridor corresponding to Variation D (a so-called Variation D Main alignment). The burrowing owl's preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures, impacts to this species would be minor. Variation D Main alignment would require fewer acres of permanent and temporary impacts to dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports, compared to Variation D, due to the shorter distance along an existing roadway.

Variation D contains potential habitat for the burrowing owl and, if implemented, it would potentially cause impacts to this species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation D requires considerably more acres of temporary and permanent impacts to dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports compared to Variation D Main alignment, due to its alignment encompassing a greater distance. Much of this alignment includes open space, which is one of the preferred habitats of the burrowing owl.

#### *Variation E*

Potential habitat for the burrowing owl occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to burrowing owl individuals. With avoidance and minimization measures, impacts to this species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Highway Only alignment and Variation E with Rail XpressWest Connection alignment; therefore, it would have less of an impact to burrowing owl habitat if implemented.

Variation E Highway Only alignment includes areas that are potential habitat to the burrowing owl, and with the implementation of this variation, impacts to the burrowing owl may occur; however, with avoidance and minimization measures, impacts to burrowing owl are expected to be low. Variation E Highway Only alignment has the potential to have impact on burrowing owl habitat to a greater extent than Variation E Main alignment, because this option traverses more open space in comparison; however, Variation E Highway Only alignment has less of an impact than Variation E with Rail XpressWest Connection alignment.

### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

Impacts with the Freeway/Expressway and Freeway/Tollway with HSR alternatives are generally the same with the exception of the variations described below. The Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternative, and therefore impacts to habitat for this species will be higher in comparison. The alternatives with HSR increase the potential impact to this species proportional to the increase in scrubland community impacts. In addition to this, the HSR spur in Victorville that departs from the highway alignment would be an additional impact for this alternative, affecting approximately 85 acres of scrubland habitat, and thus result in increased impacts to habitat for this species.

### ***Rail Option 1***

Rail Option 1 includes areas that are potential habitat to the burrowing owl, and with the implementation of this option, impacts to the burrowing owl may occur; however, with avoidance and minimization measures, impacts to burrowing owl are expected to be low. Rail Option 1 has the potential to have impact on burrowing owl habitat to a greater extent than Rail Option 7, because this option traverses more open space than Rail Option 7; however, this option runs through the outskirts of urbanized areas within Palmdale, which is considered to be low quality habitat. Rail Option 1 also requires more acreage of permanent and temporary impacts to the burrowing owl's preferred habitat of dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports compared to Rail Option 7.

### ***Rail Option 7***

Rail Option 7 includes areas that are potential habitat to the burrowing owl, and with the implementation of this option, impacts to the burrowing owl may occur; however, with avoidance and minimization measures, impacts to burrowing owl are expected to be low. Rail Option 7 has the potential to have impact on burrowing owl habitat to a lesser extent than Rail Option 1. This option traverses less open space and is within the outskirts of urbanized areas near Palmdale, which are of low quality habitat.

### ***Variation E with Rail XpressWest Connection***

Variation E with Rail XpressWest Connection alignment contains potential habitat for burrowing owl and, if implemented, it would potentially cause impacts to this species. With avoidance and minimization measures, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation E with Rail XpressWest Connection requires considerably more acres of temporary and permanent impacts to dry grasslands, agricultural and range lands, railroad ROWs, margins of highways, golf courses, and airports compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area with more open space.

**Summer tanager** (*Piranga rubra*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present, and

this species could occur on the project site in the future during construction phase. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Yellow Warbler** (*Setophaga petechia*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present, and this species could occur on the project site in the future during construction phase. Avoidance and minimization measures BAN-2 and BAN-4 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

Implementation of the proposed project has the potential to impact these species during the construction phase of this project. Because these species have the ability to fly away, direct impacts to individual adults are not expected during the construction phase of this project. Potential exists for impacts to nesting birds should they be present. With the implementation of avoidance and minimization measures BAN-2 and BAN-4, impacts to this species will be minimized.

These species are a riparian obligate species along riparian habitats. Because only a few alternatives contain this type of habitat, others are eliminated from discussion. Variations E Main, Variation E Highway Only, and Variation E with Rail XpressWest Connection are discussed below.

#### ***Freeway/Expressway and Freeway/Tollway Alternatives***

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for these species will occur to a lesser extent because of the reduced area of impact.

#### ***Variation E***

Potential habitat for these species occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to individuals. With avoidance and minimization measures impacts to these species are to be considered low. Variation E Main alignment requires fewer acres for implementation within the Mojave River compared to Variation E Highway Only alignment and Variation E with Rail XpressWest Connection alignment; therefore, it would have less of an impact to foraging and nesting habitat if implemented.

Variation E Highway Only alignment includes areas that are potential foraging and nesting habitat to these species, and with the implementation of this variation, impacts may occur; however, with avoidance and minimization measures, impacts are expected to be low. Variation E Highway Only alignment has the potential to have impact on foraging and nesting habitat to a greater extent than Variation E Main alignment, because this option has more impacts to the Mojave River; however,

Variation E Highway Only alignment has less of an impact than Variation E with Rail XpressWest Connection alignment.

*Freeway/Expressway and Freeway/Tollway with HSR Alternatives*

The Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to habitat for these species will be higher in comparison. The alternatives with HSR increase the potential impact to these species proportional to the increase in scrubland community impacts

*Variation E with Rail XpressWest Connection*

Variation E with Rail XpressWest Connection alignment contains potential habitat for these species and, if implemented, it would potentially cause impacts. With avoidance and minimization measures, such as having a biological monitor present for clearing, impacts to these species are expected to be low; however, Variation E with Rail XpressWest Connection alignment requires considerably more acres of temporary and permanent impacts foraging and nesting habitat compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area with more impacts to the Mojave River.

*Mammals*

**Western mastiff bat** (*Eumops perotis californicus*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present, and this species could occur on the project site in the future during the construction phase. Avoidance and minimization measures BAN-3 and BAN-5 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

**Yuma myotis** (*Myotis yumanensis*): No individuals of this species were noted within the BSA during site visits; however, suitable habitat for this species is present, and this species could occur on the project site in the future during construction phase. Avoidance and minimization measures BAN-3 and BAN-5 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

Implementation of the proposed project has the potential to impact these species during the construction phase of this project. Because these species have the ability to fly away, direct impacts to individual adults are not expected during the construction phase of this project. Potential exists for impacts to dependent juveniles should they be present. With the implementation of the above-stated avoidance and minimization measures, impacts to these species will be minimized.

*Freeway/Expressway and Freeway/Tollway Alternatives*

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore

impacts to habitat for these species will occur to a lesser extent because of the reduced area of impact.

#### *Main Alignment/Common Areas*

Within the BSA of the main alignment common areas, impacts have the potential to occur. Habitat occurs throughout the proposed project corridor. Impacts to these species are expected to occur due to clearing and grubbing activities associated with implementation of the proposed project. With incorporation of the minimization measures listed above, the impacts to individuals of these species are expected to be low.

#### *Variation A*

Potential impacts may occur with the implementation of the main alignment corridor corresponding to Variation A (a so-called Variation A Main alignment). Preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures mentioned above, impacts to these species are expected to be low. Variation A Main alignment would require fewer acres of permanent and temporary impacts to habitat compared to the Variation A alignment, because it traverses less distance along existing roadways.

Variation A alignment contains potential habitat for these species and, if implemented, it would potentially cause impacts to these species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts are expected to be low; however, Variation A alignment requires considerably more acres of temporary and permanent impacts to habitat compared to Variation A Main alignment. Therefore, potential impacts to these species and its habitat are slightly higher with the implementation of this variation.

#### *Variation B*

The main alignment corridor corresponding to Variation B (a so-called Variation B Main alignment) includes areas that are potential habitat, and with the implementation of this alignment, impacts may occur; however, with the avoidance and minimization measures mentioned above, impacts are expected to be low. Variation B Main alignment has the potential to have impact on habitat to a lesser extent than Variation B alignment and Variation B1 alignment, because this option traverses less open space than these variations and, at one location, bisects farmland rather than suitable habitat.

Variation B alignment contains potential habitat for these species and, if implemented, it could potentially cause impacts to these species. With avoidance and minimization measures, impacts are expected to be low; however, Variation B requires considerably more acres of temporary and permanent impacts to habitat compared to Variation B Main alignment and Variation B1 alignment, due to its alignment encompassing a greater distance.

Potential impacts may occur with the implementation of Variation B1 alignment. The preferred habitat type is known to occur within the limits of this variation; however, with avoidance and minimization measures mentioned above, impacts to these species would be minor. This variation would require slightly more acres of permanent and temporary impacts to habitat than Variation B Main alignment because it runs through open space, whereas Variation B Main alignment bisects farmland at one location. Variation B1 alignment would require fewer acres of permanent and temporary impacts to habitat, compared to Variation B alignment.

#### *Variation D*

Potential impacts may occur with the implementation of the main alignment corridor corresponding to Variation D (a so-called Variation D Main alignment). The preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures mentioned above, impacts to these species would be minor. Variation D Main alignment would require fewer acres of permanent and temporary impacts to habitat compared to Variation D alignment, due to the shorter distance along an existing roadway.

Variation D alignment contains potential habitat for these species and, if implemented, it would potentially cause impacts. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to these species are expected to be low; however, Variation D requires considerably more acres of temporary and permanent impacts to habitat compared to Variation D Main alignment, due to its alignment encompassing a greater distance. Much of this alignment includes open space, which is preferred habitat.

#### *Variation E*

Potential habitat occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to individuals of these species. With avoidance and minimization measures, impacts to these species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Highway Only alignment and Variation E with Rail XpressWest Connection alignment; therefore, it would have less of an impact to habitat if implemented.

Variation E Highway Only alignment includes areas that are potential habitat, and with the implementation of this variation, impacts may occur; however, with the avoidance and minimization measures mentioned above, impacts are expected to be low. Variation E Highway Only alignment has the potential to have impact on habitat to a greater extent than Variation E Main alignment, because this option traverses more open space compared; however, Variation E Highway Only alignment has less of an impact than Variation E with Rail XpressWest Connection alignment.

### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

Impacts with the Freeway/Expressway and Freeway/Tollway with HSR alternatives are generally the same with the exception of the variations described below. The Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to habitat for these species will be higher in comparison. The alternatives with HSR increase the potential impact to this species proportional to the increase in scrubland community impacts. In addition to this, the HSR spur in Victorville that departs from the highway alignment would be an additional impact for this alternative, affecting approximately 85 acres of scrubland habitat, and thus result in increased impacts to habitat for these species

#### ***Rail Option 1***

Rail Option 1 includes areas that are potential habitat, and with the implementation of this option, impacts may occur; however, with the avoidance and minimization measures mentioned above, impacts are expected to be low. Rail Option 1 has the potential to have impact on these species to a greater extent than Rail Option 7 because this option traverses more open space than Rail Option 7; however, this option runs through the outskirts of urbanized areas within Palmdale, which is considered to be marginal quality habitat. Rail Option 1 also requires more acreage of permanent and temporary impacts to the habitat compared to Rail Option 7.

#### ***Rail Option 7***

Rail Option 7 includes areas that are potential habitat, and with the implementation of this option, impacts may occur; however, with the avoidance and minimization measures mentioned above, impacts are expected to be low. Rail Option 7 has the potential to have impact on habitat to a lesser extent than Rail Option 1. This option traverses less open space and is within the outskirts of urbanized areas near Palmdale, which are of marginal quality habitat.

#### ***Variation E with Rail XpressWest Connection***

Variation E with Rail XpressWest Connection alignment contains potential habitat and, if implemented, it would potentially cause impacts to these species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to these species are expected to be low; however, Variation E with Rail XpressWest Connection requires considerably more acres of temporary and permanent impacts to habitat compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area with more open space.

**Mojave river vole** (*Microtus californicus mohavensis*): No sign or observation of individuals was recorded during surveys or site visits; however, suitable habitat for this species occurs within the BSA. Avoidance and minimization measure BAN-5 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

Because the habitat on the project site appears similar to that of the surrounding area, it is expected that impacts to this species would be no greater in the number of individuals expected to be taken in any one area within the project limits.

Impacts to this species can be minimized, to some extent, by requiring a biological monitor to be present onsite during initial clearing and grubbing activity to capture and relocate any individuals.

Habitat for this species can be re-established within temporary impact zones between the highway and edge of ROW. This area should be replanted with native plants similar to the natural surrounding area and the soil compacted only to a point necessary for construction purposes. This would allow any natural occurring individuals within the immediate vicinity to repopulate the temporary impact zone.

This species is a riparian obligate species primarily within weedy herbaceous-dominated riparian habitats near the Mojave River. Because only a few alternatives contain this type of habitat, others are eliminated from discussion. Variations E Main, Variation E Highway Only, and Variation E with Rail XpressWest Connection are discussed below.

#### ***Freeway/Expressway and Freeway/Tollway Alternatives***

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for this species will occur to a lesser extent because of the reduced area of impact.

#### ***Variation E***

Potential habitat for the Mojave river vole occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to Mojave river vole individuals. With avoidance and minimization measures mentioned in the previous section, impacts to this species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Highway Only alignment and Variation E with Rail XpressWest Connection alignment; therefore, it would have less of an impact to Mojave river vole foraging and nesting habitat within the Mojave River if implemented.

Variation E Highway Only alignment includes areas that are potential foraging and nesting habitat to the Mojave river vole, and with the implementation of this variation, impacts to the Mojave river vole may occur; however, with the avoidance and minimization measures mentioned above, impacts to Mojave river vole are expected to be low. Variation E Highway Only alignment has the potential to have impact on Mojave river vole foraging and nesting habitat within the Mojave River, to a greater extent than Variation E Main alignment, because this option traverses more open space in comparison; however, Variation E Highway Only alignment has less of an impact than Variation E with Rail XpressWest Connection alignment.

### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

The Freeway/Expressway Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to habitat for this species will be higher in comparison. The HSR alternatives increase the potential impact to this species proportional to the increase in scrubland community impacts.

#### *Variation E with Rail XpressWest Connection*

Variation E with Rail XpressWest Connection alignment contains potential habitat for the Mojave river vole and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing, impacts to this species are expected to be low; however, Variation E with Rail XpressWest Connection requires considerably more acres of temporary and permanent impacts to Mojave river vole foraging and nesting habitat compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area within the Mojave River.

**San Diego Desert Woodrat (*Neotoma lepida intermedia*):** This species was observed during site visits. Individuals and sign of this species were observed during site visits. It is expected to occur in relatively normal numbers throughout the project limits when compared to similar habitat in the vicinity. Avoidance, minimization, and mitigation measures BAN-1 BAN-5 BAN-6, BAN-7, and BAN-8 should be implemented. Impacts to individuals of this species will be mitigated per consultation with the appropriate agencies.

### ***Freeway/Expressway and Freeway/Tollway Alternatives***

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for this species will occur to a lesser extent because of the reduced area of impact.

#### *Main Alignment/Common Areas*

Within the BSA of the main alignment common areas, impacts to San Diego desert woodrat have the potential to occur. San Diego desert woodrat habitat occurs throughout the proposed project corridor, within Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush. Impacts to this species are expected to occur due to clearing and grubbing activities associated with implementation of the proposed project. With the incorporation of the minimization measures listed above, the impacts to individuals of this species are expected to be low.

#### *Variation A*

Potential impacts to the San Diego desert woodrat may occur with the implementation of the main alignment corridor corresponding to Variation A (a so-called Variation A Main alignment). The San Diego desert woodrat's preferred habitat type is known to

occur within the limits of this alignment; however, with avoidance and minimization measures mentioned above, impacts to this species are expected to be low. Variation A Main alignment would require fewer acres of permanent and temporary impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to the Variation A alignment because it traverses less distance along existing roadways.

Variation A alignment contains potential habitat for the San Diego desert woodrat and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation A alignment requires considerably more acres of temporary and permanent impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Variation A Main alignment. Therefore, the potential impacts to this species and its habitat are slightly higher with the implementation of this variation.

#### *Variation B*

The main alignment corridor corresponding to Variation B (a so-called Variation B Main alignment) includes areas that are potential habitat to the San Diego desert woodrat, and with the implementation of this alignment, impacts to the San Diego desert woodrat may occur; however, with the avoidance and minimization measures mentioned above, impacts to San Diego desert woodrat are expected to be low. Variation B Main alignment has the potential to have impact on San Diego desert woodrat habitat to a lesser extent than Variation B alignment and Variation B1 alignment because this option traverses less open space than these variations and, at one location, bisects farmland rather than suitable habitat.

Variation B contains potential habitat for the San Diego desert woodrat and, if implemented, it could potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation B requires considerably more acres of temporary and permanent impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Variation B Main alignment and Variation B1 alignment, due to its alignment encompassing a greater distance.

Potential impacts to the San Diego desert woodrat may occur with the implementation of Variation B1 alignment. The San Diego desert woodrat's preferred habitat type is known to occur within the limits of this variation; however, with avoidance and minimization measures mentioned above, impacts to this species would be minor. This variation would require slightly more acres of permanent and temporary impacts to San Diego desert woodrat habitat than Variation B Main alignment because it runs through open space, whereas Variation B Main alignment bisects farmland at one location. Variation B1 would require fewer acres of permanent and temporary

impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Variation B alignment.

#### *Variation D*

Potential impacts to the San Diego desert woodrat may occur with the implementation of the main alignment corridor corresponding to Variation D (a so-called Variation D Main alignment). The San Diego desert woodrat's preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures mentioned above, impacts to this species would be minor. Variation D Main alignment would require fewer acres of permanent and temporary impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Variation D alignment, due to the shorter distance along an existing roadway.

Variation D alignment contains potential habitat for the San Diego desert woodrat and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation D requires considerably more acres of temporary and permanent impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Variation D Main alignment, due to its alignment encompassing a greater distance. Much of this alignment includes open space, which is one of the preferred habitats of the San Diego desert woodrat.

#### *Variation E*

Potential habitat for the San Diego desert woodrat occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to San Diego desert woodrat individuals. With avoidance and minimization measures mentioned in the previous section, impacts to this species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Dip Highway Only alignment and Variation E with Rail XpressWest Connection alignment; therefore, it would have less of an impact to San Diego desert woodrat habitat if implemented.

Variation E Highway Only alignment includes areas that are potential habitat to the San Diego desert woodrat, and with the implementation of this variation, impacts to the San Diego desert woodrat may occur; however, with the avoidance and minimization measures mentioned above, impacts to San Diego desert woodrat are expected to be low. Variation E Highway Only alignment has the potential to have impact on San Diego desert woodrat habitat to a greater extent than Variation E Main alignment because this option traverses more open space in comparison; however, Variation E Highway Only alignment has less of an impact than Variation E with Rail XpressWest Connection alignment.

### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

The Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to habitat for this species will be higher in comparison. The HSR alternatives increase the potential impact to this species proportional to the increase in scrubland community impacts. In addition to this, the HSR spur in Victorville that departs from the highway alignment would be an additional impact for this alternative, affecting approximately 85 acres of scrubland habitat, and thus result in increased impacts to habitat for this species.

### ***Rail Option 1***

Rail Option 1 includes areas that are potential habitat to the San Diego desert woodrat, and with the implementation of this option, impacts to the San Diego desert woodrat may occur; however, with the avoidance and minimization measures mentioned above, impacts to San Diego desert woodrat are expected to be low. Rail Option 1 has the potential to have impact on San Diego desert woodrat habitat to a greater extent than Rail Option 7, because this option traverses more open space than Rail Option 7; however, this option runs through the outskirts of urbanized areas within Palmdale, which is considered to be marginal quality habitat. Rail Option 1 also requires more acreage of permanent and temporary impacts to the San Diego desert woodrat's preferred habitat of Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Rail Option 7.

### ***Rail Option 7***

Rail Option 7 includes areas that are potential habitat to the San Diego desert woodrat, and with the implementation of this option, impacts to the San Diego desert woodrat may occur; however, with the avoidance and minimization measures mentioned above, impacts to San Diego desert woodrat are expected to be low. Rail Option 7 has the potential to have impact on San Diego desert woodrat habitat to a lesser extent than Rail Option 1. This option traverses less open space and is within the outskirts of urbanized areas near Palmdale, which are of marginal quality habitat.

### ***Variation E with Rail XpressWest Connection***

Variation E with Rail XpressWest Connection alignment contains potential habitat for San Diego desert woodrat and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation E with Rail XpressWest Connection requires considerably more acres of temporary and permanent impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area with more open space.

**American Badger (*Taxidea taxus*):** Suitable habitat for this species is present, and individuals have been observed within the BSA. Avoidance, minimization, and

mitigation measures BAN-1, BAN-5, BAN-6, BAN-7, and BAN-9 should be implemented.

As noted above, this species occurs within the proposed project limits. Because the habitat on the project site appears similar to those of the surrounding area, it is expected that impacts to this species would be no greater in the number of individuals expected to be taken in any one area within the project limits.

Habitat for this species can be re-established within temporary impact zones between the highway and edge of ROW. This area should be replanted with native plants similar to the natural surrounding area and the soil compacted only to a point necessary for construction purposes. This would allow any natural occurring individuals within the immediate vicinity to repopulate the temporary impact zone.

#### ***Freeway/Expressway and Freeway/Tollway Alternatives***

Because these alternatives feature a highway only, it is narrower in comparison to the Freeway/Expressway and Freeway/Tollway with HSR alternatives, and therefore impacts to habitat for this species will occur to a lesser extent because of the reduced area of impact.

#### ***Main Alignment/Common Areas***

Within the BSA of the main alignment common areas, impacts to American badger have the potential to occur. American badger habitat occurs throughout the proposed project corridor, within brushlands with little groundcover. Impacts to this species are expected to occur due to clearing and grubbing activities associated with implementation of the proposed project. With the incorporation of the minimization measures listed above, the impacts to individuals of this species are expected to be low.

#### ***Variation A***

Potential impacts to the American badger may occur with the implementation of the main alignment corridor corresponding to Variation A (a so-called Variation A Main alignment). The American badger's preferred habitat type is known to occur within the limits of this variation; however, with the avoidance and minimization measures mentioned above, impacts to this species are expected to be low. Variation A Main alignment would require fewer acres of permanent and temporary impacts to Joshua tree woodland, pinyon-juniper woodland, mixed and chamise-redshank chaparral, and sagebrush compared to the Variation A, because it traverses less distance along existing roadways.

Variation A alignment contains potential habitat for the American badger and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation A alignment requires considerably more acres of temporary and permanent impacts to brushlands

with little groundcover compared to Variation A Main alignment; therefore, the potential impacts to this species and its habitat are slightly higher with the implementation of this variation.

#### *Variation B*

The main alignment corridor corresponding to Variation B (a so-called Variation B Main alignment) includes areas that are potential habitat to the American badger, and with the implementation of this alignment, impacts to the American badger may occur; however, with the avoidance and minimization measures mentioned above, impacts to American badger are expected to be low. Variation B Main alignment has the potential to have impact on American badger habitat to a lesser extent than Variation B alignment and Variation B1 alignment, because this option traverses less open space than these variations and, at one location, bisects farmland rather than suitable habitat.

Variation B alignment contains potential habitat for the American badger and, if implemented, it could potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities, and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation B requires considerably more acres of temporary and permanent impacts to brushlands with little groundcover compared to Variation B Main alignment and Variation B1 alignment, due to its alignment encompassing a greater distance.

Potential impacts to the American badger may occur with the implementation of Variation B1. The American badger's preferred habitat type is known to occur within the limits of this variation; however, with avoidance and minimization measures mentioned above, impacts to this species would be minor. This variation would require slightly more acres of permanent and temporary impacts to American badger habitat than Variation B Main alignment because it runs through open space, whereas Variation B Main alignment bisects farmland at one location. Variation B1 alignment would require fewer acres of permanent and temporary impacts to brushlands with little groundcover compared to Variation B alignment.

#### *Variation D*

Potential impacts to the American badger may occur with the implementation of the main alignment corridor corresponding to Variation D (a so-called Variation D Main alignment). The American badger's preferred habitat type is known to occur within the limits of this alignment; however, with avoidance and minimization measures mentioned above, impacts to this species would be minor. Variation D Main alignment would require fewer acres of permanent and temporary impacts to brushlands with little groundcover compared to Variation D alignment, due to the shorter distance along an existing roadway.

Variation D alignment contains potential habitat for the American badger and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor

present for clearing and grubbing activities, and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation D requires considerably more acres of temporary and permanent impacts to brushlands with little groundcover compared to Variation D Main alignment, due to its alignment encompassing a greater distance. Much of this alignment includes open space, which is one of the preferred habitats of the American badger.

#### *Variation E*

Potential habitat for the American badger occurs within the potential impact area of the main alignment corridor corresponding to Variation E (a so-called Variation E Main alignment) and, if implemented, this alignment could have an impact to American badger individuals. With avoidance and minimization measures mentioned in the previous section, impacts to this species are to be considered low. Variation E Main alignment requires fewer acres for implementation compared to Variation E Highway Only alignment and Variation E with Rail XpressWest Connection alignment; therefore, it would have less of an impact to American badger habitat if implemented.

Variation E Highway Only alignment includes areas that are potential habitat to the American badger, and with the implementation of this variation, impacts to the American badger may occur; however, with the avoidance and minimization measures mentioned above, impacts to American badger are expected to be low. Variation E Highway Only alignment has the potential to have impact on American badger habitat to a greater extent than Variation E Main alignment because this option traverses more open space compared; however, Variation E Highway Only alignment has less of an impact than Variation E with Rail XpressWest Connection alignment.

#### ***Freeway/Expressway and Freeway/Tollway with HSR Alternatives***

Impacts with the Freeway/Expressway and Freeway/Tollway with HSR alternatives are generally the same with the exception of the variations described below. The Freeway/Expressway and Freeway/Tollway with HSR alternatives have a wider footprint when compared to the Freeway/Expressway and Freeway/Tollway alternatives, and therefore impacts to habitat for this species will be higher in comparison. The HSR alternatives increase the potential impact to this species proportional to the increase in scrubland community impacts. In addition to this, the HSR spur in Victorville that departs from the highway alignment would be an additional impact for this alternative, affecting approximately 85 acres of scrubland habitat, and thus result in increased impacts to habitat for this species.

#### *Rail Option 1*

Rail Option 1 includes areas that are potential habitat to the American badger, and with the implementation of this option, impacts to the American badger may occur; however, with the avoidance and minimization measures mentioned above, impacts to American badger are expected to be low. Rail Option 1 has the potential to have impact on American badger habitat to a greater extent than Rail Option 7 because this

option traverses more open space than Rail Option 7; however, this option runs through the outskirts of urbanized areas within Palmdale, which is considered to be marginal quality habitat. Rail Option 1 also requires more acreage of permanent and temporary impacts to the American badger's preferred habitat of brushlands with little groundcover compared to Rail Option 7.

#### *Rail Option 7*

Rail Option 7 includes areas that are potential habitat to the American badger, and with the implementation of this option, impacts to the American badger may occur; however, with the avoidance and minimization measures mentioned above, impacts to American badger are expected to be low. Rail Option 7 has the potential to have impact on American badger habitat to a lesser extent than Rail Option 1. This option traverses less open space and is within the outskirts of urbanized areas near Palmdale, which are of marginal quality habitat.

#### *Variation E with Rail XpressWest Connection*

Variation E with Rail XpressWest Connection alignment contains potential habitat for American badger and, if implemented, it would potentially cause impacts to this species. With the avoidance and minimization measures mentioned above, such as having a biological monitor present for clearing and grubbing activities and translocation of individuals onsite, impacts to this species are expected to be low; however, Variation E with Rail XpressWest Connection requires considerably more acres of temporary and permanent impacts to brushlands with little groundcover compared to Variation E Main alignment and Variation E Highway Only alignment, due to the alignment encompassing a larger area with more open space.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Impacts to wildlife species can be avoided or minimized by implementation of the measures listed below.

- BAN-1:** Impacts to silvery legless lizard, coast horned lizard, San Diego woodrat, American badger can be minimized by requiring a biological monitor to be present onsite during initial clearing and grubbing activity to capture and relocate any individuals. If areas of high-density occurrences are found, salvage efforts can be made by more carefully removing shrubs with clam-shell loaders and searching for individuals at the base of the shrub or within the root system, as this is a more likely place for them to occur. Habitat for these species can be re-established within temporary impact zones between the highway and edge of ROW. This area will be replanted with native plants similar to the natural surrounding area and the soil compacted only to a point necessary for construction purposes. This will allow any natural occurring individuals within the immediate vicinity to repopulate the temporary impact zone.
- BAN-2:** A qualified biologist will recommend approved limits of disturbance, including construction staging areas and access routes, to minimize

impacts to adjacent habitat. To ensure the avoidance of impacts to migratory birds, the following measures will be implemented pursuant to the MBTA. Clearing and grubbing of vegetation will be conducted outside of bird-nesting season. If clearing and grubbing of vegetation needs to be conducting during bird-nesting season (February 15 to September 1), a qualified biologist will monitor construction during clearing, grading, and/or trenching activities for any occurrence of birds nesting. If birds are observed nesting, construction will stop until it is determined that the fledglings have left their nests. If this is not possible, coordination with a qualified biologist should take place to minimize the risk of violating the MBTA, and the following minimization measure put in place: an ESA fencing buffer of 150 feet for songbirds and 500 feet for raptors, which must be maintained during all phases of construction.

- BAN-3:** A qualified biologist will recommend approved limits of disturbance, including construction staging areas and access routes, to minimize impacts to adjacent habitat. To ensure the avoidance of impacts to bats, preconstruction surveys will be conducted of rock faces adjacent to the roadway and any trees designated for removal due to the initiation of construction-related activities to assess any potential presence of the species. Clearing and grubbing of vegetation will be conducted outside of the bat maternity season. If clearing and grubbing of vegetation needs to be conducting during bat maternity season (March 1 to October 15), a qualified biologist will monitor construction during clearing, grading, and/or trenching activities for any occurrence of the species breeding. For planning purposes, a preconstruction survey should be conducted approximately 30 days prior to clearing and grubbing. A second preconstruction survey shall be conducted no more than 3 days prior to clearing and grubbing. If any species are found during preconstruction surveys, they will be excluded using CDFW, U.S. Forest Service (USFS), and USFWS approved methods. Alternate bat habitat will be provided for any excluded bats.
- BAN-4:** A biological monitor will be present a minimum of 1 week prior to clearing and grubbing activities to walk the proposed areas to be cleared and grubbed and dispel animals that have the ability to flee.
- BAN -5:** A qualified biologist will survey for, trap/capture species present, and relocate to a designated area approved by USFWS or CDFW
- BAN-6:** Appropriate native habitat will be replanted in temporarily impacted areas. Additionally, a Habitat Mitigation Monitoring Plan (HMMP) will be developed.
- BAN-7:** Restoration of disturbed habitat within the project limits will be conducted.

**BAN-8:** The boundaries of ROW shall be fenced off with materials approved by a Caltrans District Biologist for the following reasons: (1) serve as a guide for wildlife to utilize the appropriate crossings, meanwhile reducing impacts to wildlife/vehicle collisions, and (2) reduce vandalism to restoration sites.

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