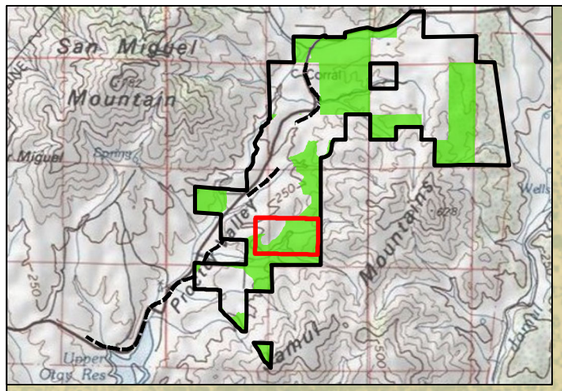

D21

D20

B25

0 95 190 Feet

Project Area
Otay Ranch RMP and MSCP Preserve
Development Footprint

Features Sampled and Species Observed

No branchiopods

SOURCE: Bing Maps 2017; Hunsaker 2016

FIGURE 3-1C

Fairy Shrimp Survey Area and Results

DUDEK

Otay Ranch Village 14 and Planning Areas 16/19 - Land Exchange Alternative Preserve Status Report

NOTE: Survey areas may include additional acreage outside of the Project Area

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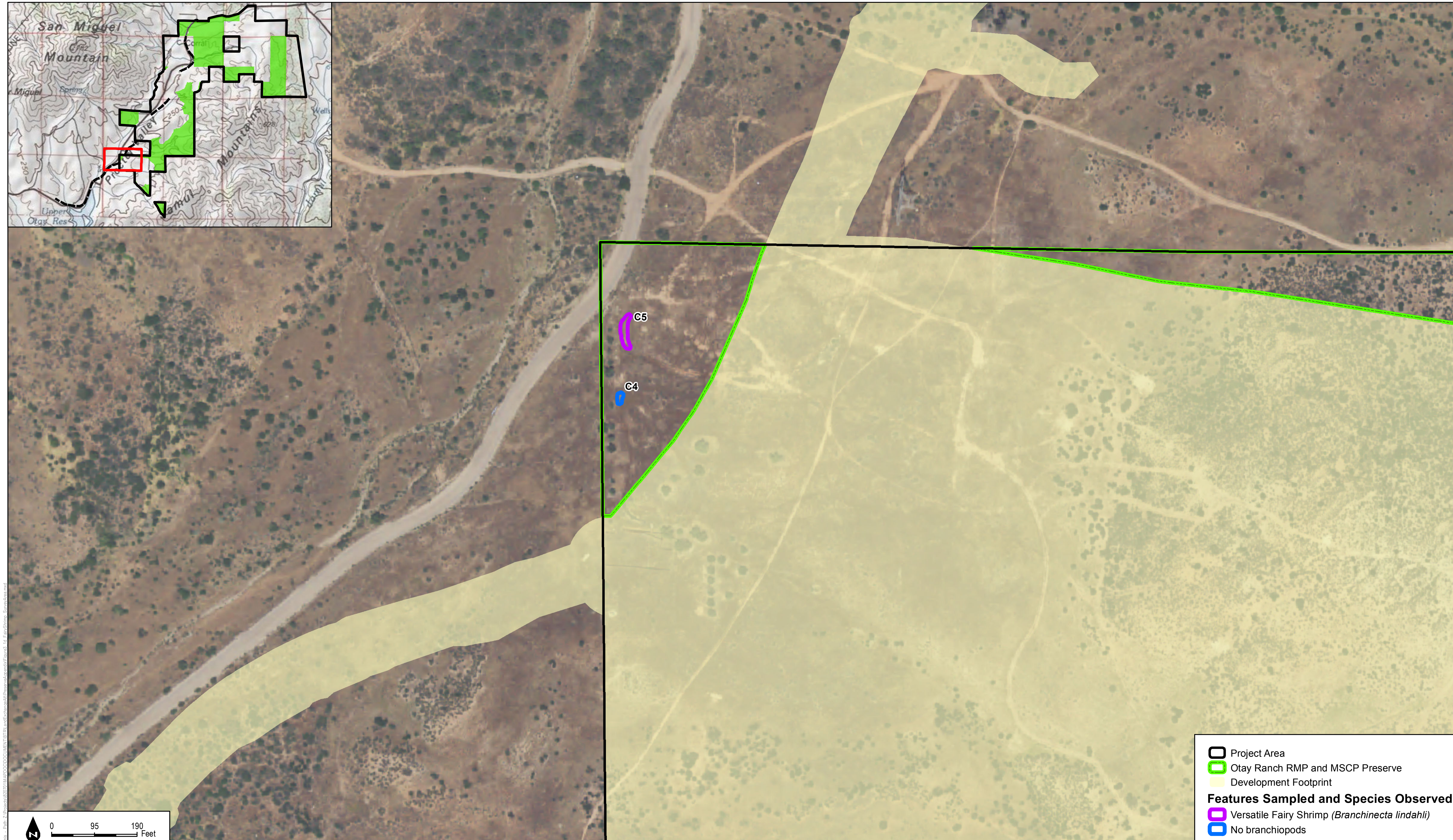

DUDEK

SOURCE: Bing Maps 2017; Hunsaker 2016

FIGURE 3-1D

Fairy Shrimp Survey Area and Results

Otay Ranch Village 14 and Planning Areas 16/19 - Land Exchange Alternative Preserve Status Report

NOTE: Survey areas may include additional acreage outside of the Project Area

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This species was observed on multiple occasions throughout the Preserves during biological surveys (Figures 2-1 and 2-1A through 2-1V). Due to the high mobility of this species, not all observations were mapped. This species can occur throughout nearly all of the upland vegetation communities within the Otay Ranch RMP and MSCP Preserve.

San Diego Desert Woodrat* (Neotoma lepida intermedia)*, SSC/County Group 2

The San Diego desert woodrat is a SSC and County Group 2 species. This species is found in coastal Southern California into Baja California, Mexico (Reid 2006). Marginal eastern records for the San Diego desert woodrat in the United States include San Luis Obispo, San Fernando in Los Angeles County, the San Bernardino Mountains and Redlands in San Bernardino County, and Julian in San Diego County (Hall 1981). Desert woodrats are found in a variety of shrub and desert habitats and are primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth.

Woodrat middens were observed, indicating this species occurs within the Otay Ranch RMP and MSCP Preserve. Suitable habitat within the Preserves includes the upland vegetation communities.

American Badger* (Taxidea taxus)*, SSC/MSCP Covered/County Group 2

The American badger is a SSC, MSCP Covered, and County Group 2 species. In California they are found throughout the state except in coastal Northern California (Zeiner et al. 1990b). American badgers typically occur in open, sparsely vegetated habitats, but also use modified habitats such as agriculture. They are found in dry, open areas with friable soils, and can occur throughout the Study Area. Their distribution in a landscape coincides with the availability of prey, burrowing sites, and mates; with males' distribution ranging wider than females' during the breeding and summer months (Minta 1993). In general, badger activity within a home range tends to concentrate in areas with suitable soils for burrowing or with colonies of ground squirrels.

An American badger burrow was documented in the Planning Area 16 Preserve. The burrow showed distinct claw marks indicative of a badger burrow.

Reptiles

Rosy Boa* (Lichanura trivirgata)*, County Group 2

Rosy boa is not considered special status by any state or federal agencies; however, it is a County Group 2 species. The rosy boa in California ranges from Los Angeles, eastern Kern, and southern Inyo counties, and south through San Bernardino, Riverside, Orange, and Diego counties (Spiteri 1988; Stebbins 2003; Zeiner et al. 1990b). It occurs at elevations from sea level

to 5,000 feet amsl in the Peninsular and Transverse mountain ranges. Within its range in Southern California, the rosy boa is absent only from the southeastern corner of California around the Salton Sea and the western and southern portions of Imperial County (Zeiner et al. 1990b). The rosy boa inhabits rocky shrubland and desert habitats, and is attracted to oases and streams, but does not require permanent water (Stebbins 2003).

Rosy boa was observed once during surveys within the Village 14 Otay Ranch RMP Preserve (Figures 2-1 and 2-1A through 2-1V), and there is suitable habitat in the vegetation communities with rocky areas intermixed with shrubs within the Otay Ranch RMP Preserve surrounding this species location. In addition, there are small rock outcrops in non-graded LDA portions of the Land Exchange Area in the most eastern portion of Planning Area 16 and within the adjacent Conserved Open Space.

Birds

California Horned Lark (**Eremophila alpestris actia**)***, WL/County Group 2***

California horned lark is a WL and County Group 2 species. The California horned lark is a permanent resident found throughout much of the southern half of California. This species breeds and resides in the coastal region of California from Sonoma County southeast to the U.S./Mexico border, including most of the San Joaquin Valley, and eastward to the foothills of the Sierra Nevada (Beason 1995; Grinnell and Miller 1944). It is found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above tree line. This species prefers open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, and fallow grain fields, and it nests on the ground in a hollow scrape.

This species was observed during biological surveys, with several individuals generally occurring at mapped locations (Figures 2-1 and 2-1A through 2-1V). However, due to the high mobility of this species not all observations were mapped. There is suitable foraging and nesting habitat within the Land Exchange Alternative.

Western Bluebird (**Sialia mexicana**)***, MSCP Covered/County Group 2***

Western bluebird is a MSCP Covered and County Group 2 species. They are common resident birds in San Diego County, where they prefer montane coniferous and oak woodlands (Unitt 2004). It nests in old-growth red fir, mixed conifer, and lodgepole pine habitats near wet meadows used for foraging. Because this species is not considered special status by state or federal agencies, it is not tracked in the CNDDB.

Western bluebirds were observed during surveys, and one observation was mapped along Proctor Valley North at the edge of the Planning Area 19 Otay Ranch RMP Preserve. There is suitable nesting habitat within the eucalyptus trees and suitable foraging habitat throughout the Preserve.

Barn Owl* (Tyto alba), *County Group 2

The barn owl is a not considered special status by any state or federal agencies; however, it is a County Group 2 species. It is common throughout its range throughout most continents, and in the Americas, it occurs in much of continental United States, south through Central and South America to Tierra del Fuego (Marti et al. 2005). In San Diego County, it is an uncommon permanent resident and occurs in urban settings, roosting in buildings, palm leaves, and nest boxes.

Barn owls do not seem to use specific habitat affinities, provided there are ample sites for nesting opportunities and adequate ground for hunting small mammals (Taylor 1994). Habitat types that are commonly used include open habitats such as grassland, chaparral, riparian, and other wetland types, from sea level to 1,680 meters (5,512 feet) amsl (Zeiner et al. 1990a).

This species was observed during focused surveys for coastal California gnatcatcher in the northwest portion of the Otay Ranch RMP Preserve, east of Proctor Valley Road, but its location was not mapped. Although there is suitable habitat for foraging, there are limited trees or similar structures that would support nesting for this species. Suitable foraging habitat in the Land Exchange Alternative Preserve includes the majority of the vegetation communities.

Mammals

Mule Deer* (Odocoileus hemionus), *MSCP Covered Species/County Group 2

The mule deer is a MSCP Covered and County Group 2 species. It is a common species with a widespread distribution throughout the western United States and Canada and south into mainland and Baja California, Mexico (Hall 1981). It occurs throughout most of California, except in deserts and intensively farmed areas without cover (Zeiner et al. 1990b). Throughout its range, mule deer uses coniferous and deciduous forests, riparian habitats, desert shrub, coastal scrub, chaparral, and grasslands with shrubs. It is often associated with successional vegetation, especially near agricultural lands (NatureServe 2014). It uses forested cover for protection from the elements and open areas for feeding (Wilson and Ruff 1999). Mule deer fawn in a variety of habitats that have available water and abundant forage, including moderately dense shrubs and forests, dense herbaceous stands, and higher-elevation riparian and mountain shrub vegetation.

Mule deer were observed during biological surveys, but the locations were not mapped due to the high mobility of this species. Mule deer were flushed from upland habitats several times during surveys and are likely to use most of the Otay Ranch RMP and MSCP Preserve.

Invertebrates

Monarch* (Danaus plexippus), *County Group 2

The monarch butterfly is not considered special status by any state or federal agencies; however, it is a County Group 2 species. It follows a pattern of seasonal migration. In the summer, this species is found in New England, the Great Lakes region, and the northern Rocky Mountains. These areas are occupied from May through late August to mid-September (Urquhart 1987). The New England and Great Lakes populations migrate southwest to wintering grounds in the Sierra Madre of Mexico. The Rocky Mountains population migrates southwest to wintering grounds along the California coast.

The species' distribution is controlled by the distribution of its larval host plant (i.e., various milkweeds, genus *Asclepias*). Eggs are deposited and hatch on the underside of leaves of the milkweed plant. Upon hatching, the larvae feed upon the fine hairs on the leaves of the plant and stay on the same plant throughout its molting stages. After molting, the larvae leave the milkweed and construct its chrysalis elsewhere. However, once an adult monarch butterfly emerges from the chrysalis, it soon returns to a milkweed plant for foraging and shelter (Urquhart 1987).

Monarch butterfly wintering sites are considered special status by CDFW (2016b). Wintering sites in California are associated with wind-protected groves of large trees (primarily eucalyptus or pine) with nectar and water sources nearby, generally near the coast. A few California sites (e.g., Pacific Grove and Natural Bridges) support concentrated numbers of overwintering adults, but adults often winter as scattered individuals or in small clusters (Emmel and Emmel 1973). Sexually mature monarch butterflies mate along their northern migratory route (while returning to their summer grounds) and deposit eggs on milkweed plants. Adults die shortly after mating and laying eggs, leaving the completion of the northern migration to their offspring.

This species was observed during Quino checkerspot butterfly surveys and Mexican whorled milkweed (*Asclepias fascicularis*), a potential host plant, was recorded within the Land Exchange Alternative. There are small patches of eucalyptus within the Land Exchange Alternative, but they are not expected to be large enough to support wintering colonies. The nearest wintering colony of monarch butterfly in San Diego County is near University of

California, San Diego coastal site along Aluz Street, approximately 23 miles northwest of the Land Exchange Area (Pelton et al. 2016).

3.2.2 Special-Status Wildlife Species with a Moderate to High Potential to Occur

Two MSCP Covered Species have a high potential to occur within the Otay Ranch RMP and MSCP Preserve: ferruginous hawk (*Buteo regalis*), and orangethroat whiptail (*Aspidoscelis hyperythra*). Other special-status wildlife species with a high potential to occur within the Otay Ranch RMP Preserve include Bell's sage sparrow (*Artemisiospiza belli belli*), burrowing owl (*Athene cunicularia*), Quino checkerspot (*Euphydryas editha quino*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), Yuma myotis (*Myotis yumanensis*), San Diego desert woodrat (*Neotoma lepida intermedia*), big free-tailed bat (*Nyctinomops macrotis*), cougar (*Puma concolor*), red diamondback rattlesnake (*Crotalus ruber*), San Diego banded gecko (*Coleonyx variegatus abbotti*), and Coronado skink (*Plestiodon skiltonianus interparietalis*). Species that have moderate or high potential to occur within the Preserve areas are described in more detail in Table 7.

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
Birds			
golden eagle (*Aquila chrysaetos* (nesting and wintering))	BCC/FP, WL/ Covered/ Group 1	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	A pair of golden eagles was observed foraging within the Land Exchange Alternative in 2014 by USFWS staff; two additional observations of a foraging golden eagle were recorded in 2014 by Dudek, and additional unpaired eagles have been identified in the Valley by USFWS personnel during 2015. There is no suitable nesting habitat within the Land Exchange Alternative for this species. The closest known historical nesting area, which has since collapsed and is not active, is on San Miguel Mountain, is over 3,000 feet to the north of the Land Exchange Area (H.T. Harvey 2017). The nearest known recently active golden eagle nest (as of 2011) is located in the Cedar Canyon area near Otay Mountain, just over 5 miles from the proposed development (USFWS 2012 as cited in H.T. Harvey 2017)

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
Bell's sage sparrow (*Artemisiospiza belli belli*)	BCC/WL/ None/Group 1	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	High potential to occur. There is suitable habitat throughout the Land Exchange Alternative and this species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
burrowing owl (*Athene cunicularia* (burrow sites and some wintering sites))	BCC/SSC/ Covered/ Group 1	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Burrowing owl has not been observed within the Land Exchange Alternative, but there is high potential for it to occur. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b). During recent plant surveys in July 2015, a potential burrowing owl sign (white wash, feathers, and pellets) was observed at one burrow in the central portion of the Land Exchange Area (outside of the Otay Ranch RMP Preserve or other non-impacted areas within Village 14 and Planning Areas 16/19). However, no actual owls were observed or have been observed within the Land Exchange Area.
ferruginous hawk (*Buteo regalis* (wintering))	BCC/WL/ Covered/ Group 1	Winters and forages in open, dry country, grasslands, open fields, agriculture	There is high potential for ferruginous hawk to forage within the Otay Ranch RMP and MSCP Preserve within Village 14 and Planning Areas 16/19 during the winter season.
least bittern (*Ixobrychus exilis* (nesting))	BCC/SSC/ None/Group 2	Nests in freshwater and brackish marshes with dense, tall growths of aquatic and semi-aquatic vegetation	Moderate potential to occur. There is some freshwater marsh in the Planning Area 19 Otay Ranch RMP Preserve within the southern drainage near Proctor Valley Road that could support this species. This species has been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b).
yellow warbler (*Setophaga petechia* (nesting))	BCC/SSC/ None/Group 2	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine and mixed conifer habitats	This species has been observed in 2017 foraging overhead within the Planning Area 16, but outside of the Otay Ranch RMP Preserve or other non-impacted areas. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b). There are very small patches of riparian scrub within the Otay Ranch RMP and MSCP Preserve within Village 14 and Planning Areas 16/19 that has low potential to support this species.

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
western bluebird (*Sialia mexicana*)	None/None/ Covered/ Group 2	Nests in old-growth red fir, mixed conifer, lodgepole pine habitats near wet meadows used for foraging	A pair of western bluebirds was observed within along Proctor Valley Road North and can occur in suitable habitat throughout the Land Exchange Alternative. This species has moderate potential to nest in eucalyptus trees within the Planning Area 19 Otay Ranch RMP Preserve.
Common barn-owl (*Tyto alba*)	None/None/ None/Group 2	Open habitats including grassland, chaparral, riparian, and other wetlands	This species was observed within the Land Exchange Alternative and has potential to forage throughout the Preserve within Village 14 and Planning Areas 16/19 and has moderate potential to nest in eucalyptus trees within the Planning Area 19 Otay Ranch RMP Preserve.
Invertebrates			
Quino checkerspot (*Euphydryas editha quino*)	FE/None/ None/Group 1	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clat; host plants include *Plantago erecta* (dwarf plantain), *Antirrhinum coulterianum* (white snapdragon), and *Plantago patagonica* (woolly plantain) (Silverado Occurrence Complex)	High potential to occur. Focused surveys for Quino checkerspot butterfly were conducted in 2015 and 2016; the results were negative but stopped early due diminishing host plants and lack of recent regional Quino checkerspot butterfly sightings (HELIX 2016, 2017). Quino checkerspot butterfly has been recorded within the Land Exchange Alternative: there are two records prior to 1990 (CDFW 2016b); and one from 2001 and one from 2006 (USFWS 2015). There are additional records north and south of the Land Exchange Alternative. The Proctor Valley Vernal Pool Restoration Plan includes records of Quino checkerspot butterfly in and around the project boundary (AECOM and D. Hogan 2012). There is suitable habitat in the coastal sage scrub, openings in chaparral, and in some of the non-native grassland.
Hermes copper (*Lycaena hermes*)	FC/None/ None/Group 1	Mixed woodlands, chaparral and coastal scrub	Moderate potential to occur. There are approximately 8.6 acres mapped as suitable Hermes copper habitat within the Land Exchange Alternative (6.5 acres) or other non-impacted areas within Village 14 and Planning Areas 16/19. Results of the focused surveys in 2015 and 2017 were negative, but this species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b). It should be noted that the 2015 and 2017 habitat assessments and focused surveys did not cover the entire Otay

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
			Ranch RMP Preserve (Figure 3-2). There may be additional host plants located in the areas not surveyed.
wandering skipper (*Panoquina errans*)	None/None/ Covered/ Group 1	Salt marsh	Moderate potential to occur. There is some salt grass (*Distichlis spicata*) within the cismontane alkali marsh that occurs along drainages within the Land Exchange Alternative. This species has not been observed, however, has been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b).
alkali skipper (*Pseudocopaeodes eunus eunus*)	None/None/ None/Group 1	Grassy spots on alkali flats; playa/salt flats	Moderate potential to occur. There is some salt grass (*Distichlis spicata*) within the cismontane alkali marsh that occurs along drainages within the Land Exchange Alternative Preserve. This species has not been observed. Additionally, this species has not been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b).
Mammals			
pallid bat (*Antrozous pallidus*)	None/SSC/ None/Group 2	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting, but also roosts in built structures and trees	High potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. Low to moderate potential to roost in large boulders and trees within the Otay Ranch RMP and MSCP Preserve. This species has been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b).
Dulzura pocket mouse (*Chaetodipus californicus femoralis*)	None/SSC/ None/Group 2	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed conifer habitats; disturbance specialist; 0 to 3,000 feet amsl	Moderate potential to occur. There is suitable habitat for this species within the Preserve within Village 14 and Planning Areas 16/19. This species has not been recorded in the Jamul Mountains quadrangle, but is documented in surrounding quadrangles[2] (CDFW 2016b).
northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	None/SSC/ None/Group 2	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Moderate potential to occur. There is suitable habitat for this species within the Preserve within Village 14 and Planning Areas 16/19. This species has not been recorded in the Jamul Mountains quadrangle, but is documented in surrounding quadrangles[2] (CDFW 2016b).
western mastiff bat (*Eumops perotis californicus*)	None/SSC/ None/Group 2	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices	High potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. Low to moderate potential to roost in large boulders and trees within the Otay Ranch RMP and

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
		in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels	MSCP Preserve. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
western red bat (*Lasiurus blossevillii*)	None/SSC/ None/Group 2	Forest, woodland, riparian, mesquite bosque and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	High potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. Low to moderate potential to roost in large boulders and trees within the Preserve or other within Village 14 and Planning Areas 16/19. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
California leaf-nosed bat (*Macrotus californicus*)	None/SSC/ None/Group 2	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, occasionally buildings	Moderate potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. There is no roosting habitat within the Preserve. This species has been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b). Mostly a desert species.
Yuma myotis (*Myotis yumanensis*)	None/None/ None/Group 2	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, rock crevices, caves, mines, and trees	High potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. Low to moderate potential to roost in rock crevices and trees within the Preserve. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
San Diego desert woodrat (*Neotoma lepida intermedia*)	None/SSC/ None/Group 2	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Woodrat middens have been observed within the Land Exchange Alternative and this species likely occurs. This species has been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b).
pocketed free-tailed bat (*Nyctinomops femorosaccus*)	None/SSC/ None/Group 2	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, buildings	Moderate potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. Low to moderate potential to roost in boulders within the Preserve or. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b). A mostly desert species.
big free-tailed bat (*Nyctinomops macrotis*)	None/SSC/ None/Group 2	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	High potential to forage in suitable habitat within the Preserve within Village 14 and Planning Areas 16/19. Low to moderate potential to roost in large boulders and trees within the Preserve. This species

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
			has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
cougar (*Puma concolor*)	None/None/ Covered/ Group 2	Scrubs, chaparral, riparian, woodland, forest; rests in rocky area, and on cliffs and ledges that provide cover; most abundant in riparian area and brushy stages of most habitats throughout California, except deserts	Cougar sign was observed within the northwestern portion of the Land Exchange Alternative during coastal California gnatcatcher surveys. The Preserve within Village 14 and Planning Areas 16/19 is generally open and does not provide a lot of cover for this species.
		Reptiles	
California legless lizard (*Anniella pulchra*)	None/SSC/ None/Group 2	Stabilized dunes, beaches, dry washes, chaparral, scrubs, pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	Moderate potential to occur. There is some potential for this species to occur where there are sandy soils. This species has been recorded in the CNDDB 9-quadrangle search[2] (CDFW 2016b).
orangethroat whiptail (*Aspidoscelis hyperythra*)	None/WL/ Covered/ Group 2	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	High potential to occur. There is suitable habitat for this species in the coastal sage scrub and chaparral. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
San Diego banded gecko (*Coleonyx variegatus abbotti*)	None/SSC/ None/Group 1	Rocky areas within coastal scrub and chaparral	High potential to occur. The Preserve within Village 14 and Planning Areas 16/19 supports suitable habitat for this species and is within its range (Nafis 2016).
red diamondback rattlesnake (*Crotalus ruber*)	None/SSC/ None/Group 2	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	High potential to occur. This species was observed within the Land Exchange Alternative, however not within the Village 14 and Planning Areas 16/19Preserve .
San Diego ringneck snake (*Diadophis punctatus similis*)	None/None/ None/Group 2	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed conifer forest, and woodland habitats	Moderate potential to occur. There is suitable habitat for this species within the Preserve within Village 14 and Planning Areas 16/19. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
Coronado skink (*Plestiodon skiltonianus interparietalis*)	None/WL/ None/Group 2	Woodlands, grasslands, pine forests, chaparral; rocky areas near water	High potential to occur. This species has high potential to occur within some of the rocky chaparral and coastal sage scrub with drainages where there is seasonal water in the Preserve within Village 14

Table 7
Special-Status Wildlife Species that have High or Moderate Potential to Occur within the Otay Ranch RMP and MSCP Preserve

Species	Status (Federal/State/San Diego South County MSCP/ San Diego County)[1]	Primary Habitat Associations	Status Within the Otay Ranch RMP and MSCP Preserve, or Potential to Occur
			and Planning Areas 16/19. This species has been recorded in the Jamul Mountains quadrangle (CDFW 2016b).
coast patch-nosed snake (*Salvadora hexalepis virgultea*)	None/SSC/ None/Group 2	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Moderate potential to occur. There is suitable habitat for this species within the Land Exchange Alternative. This species has not been recorded in the Jamul Mountains quadrangle, but is documented in surrounding quadrangles[2] (CDFW 2016b).

3.2.3 Anticipated Conservation Levels for Special-Status Wildlife Species

Similar to special-status plant species, the RMP provides a summary of the distribution of special-status wildlife species within Otay Ranch as well as the percentage of populations anticipated to be retained in the Preserve. Table 3-5 of the MSCP Plan provides a list of the MSCP Covered wildlife species along with the specific conditions required for take authorizations and the conservation levels anticipated for each Covered Species. Table 8 provides the RMP and MSCP Plan anticipated conservation levels for each special-status wildlife species observed within the Otay Ranch RMP Preserve and the Land Exchange Alternative's contribution to the preservation of the species.

Table 8
Otay Ranch RMP and MSCP Anticipated Conservation Levels for Special-Status Wildlife Species

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/ County Group	Otay Ranch RMP	MSCP Table 3-5	Project Preservation
Amphibians and Reptiles				
western spadefoot (*Spea hammondii*)	None SSC Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 2 features within Village 14 and 4 features within

Table 8
Otay Ranch RMP and MSCP Anticipated Conservation Levels for Special-Status Wildlife Species

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/ County Group	Otay Ranch RMP	MSCP Table 3-5	Project Preservation
				Otay Ranch RMP and MSCP Preserve.
San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*)	None SSC Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 74% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
rosy boa (*Lichanura trivirgata*)	None None Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 74% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
Blainville's horned lizard (*Phrynosoma blainvillii*)	None SSC Covered Group 2	No preservation requirements	This species would be covered by the MSCP because 60% of its potential habitat and 63% of known point occurrences would be conserved.	The Land Exchange Alternative would preserve 74% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
Birds				
Cooper's hawk (*Accipiter cooperii*) (nesting)	None WL Covered Group 1	Although this species is listed in Table 5 of the RMP, the Otay Ranch distribution and percentage retained in the Preserve are not provided for this species.	This species would be covered by the MSCP because 59% of potential foraging and 52% of potential nesting habitat and 92% of known occurrences would be conserved.	The Land Exchange Alternative would preserve 54% of suitable nesting habitat and 74% of suitable foraging habitat within the Otay Ranch RMP and MSCP Preserve.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	None WL Covered Group 1	The RMP states that because 70% of the coastal sage scrub on the Ranch would be included in the Preserve, this species would receive adequate protection. Table 5 of the RMP indicates 70%–75% of the Otay Ranch populations of this species retained in the Preserve.	This species would be covered by the MSCP because 61% of potential habitat (including 71% of mapped localities) would be conserved.	The Land Exchange Alternative would preserve 74% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.

Table 8
Otay Ranch RMP and MSCP Anticipated Conservation Levels for Special-Status Wildlife Species

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/ County Group	Otay Ranch RMP	MSCP Table 3-5	Project Preservation
grasshopper sparrow (*Ammodramus savannarum*) (nesting)	None SSC Not Covered Group 1	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 81% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
golden eagle (*Aquila chrysaetos*) (nesting and wintering)	BCC FP,WL Covered Group 1	Although this species is listed in Table 5 of the RMP, the Otay Ranch distribution and percentage retained in the Preserve are not provided for this species.	This species would be covered by the MSCP because 53% of potential foraging and nesting habitat would be conserved. Local populations are not critical to, and the plan would not adversely affect the species' long-term survival.	The Land Exchange Alternative would preserve 74% of suitable foraging habitat within the Otay Ranch RMP and MSCP Preserve.
long-eared owl (*Asio otus*)	None SSC Not Covered Group 1	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 74% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
red-shouldered hawk (*Buteo lineatus*)	None None Not Covered Group 1	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 54% of suitable nesting habitat and 74% of suitable foraging habitat within the Otay Ranch RMP and MSCP Preserve.
northern harrier (*Circus cyaneus*) (nesting)	None None Not Covered Group 1	Although this species is listed in Table 5 of the RMP, the Otay Ranch distribution and percentage retained in the Preserve are not provided for this species.	This species is not a Covered Species.	The Land Exchange Alternative would preserve 98% of suitable nesting habitat and 90% of suitable foraging habitat within the Otay Ranch RMP and MSCP Preserve.
white-tailed kite (*Elanus leucurus*)	None FP Not Covered Group 1	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 81% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.

Table 8
Otay Ranch RMP and MSCP Anticipated Conservation Levels for Special-Status Wildlife Species

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/ County Group	Otay Ranch RMP	MSCP Table 3-5	Project Preservation
California horned lark (*Eremophila alpestris actia*)	None WL Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 89% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
loggerhead shrike (*Lanius ludovicianus*) (nesting)	BCC SSC Not Covered Group 1	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 89% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
coastal California gnatcatcher (*Polioptila californica californica*)	FT SSC Covered Group 1	Table 5 of the RMP indicates 52% of the Otay Ranch populations of this species retained in the Preserve.	This species would be covered by the MSCP because: over 73,300 acres of existing and potential gnatcatcher habitat would be conserved and linked together; over 91% of the core areas where the species occurs (Otay, San Miguel, Mission Trails, Santee, Kearny Mesa, Poway, San Pasqual, and Lake Hodges) would be conserved; and 65% of the known locations would be conserved.	The Land Exchange Alternative would preserve 72% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
common barn owl (*Tyto alba*)	None None Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 89% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
Mammals				
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	None SSC Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 73% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
mule deer (*Odocoileus*	None None	No preservation requirements	This species would be covered by the MSCP because 81% of the core	The Land Exchange Alternative would preserve 73% of suitable habitat

Table 8
Otay Ranch RMP and MSCP Anticipated Conservation Levels for Special-Status Wildlife Species

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/ County Group	Otay Ranch RMP	MSCP Table 3-5	Project Preservation
hemionus)	Covered Group 2		areas that support its habitat would be conserved.	within the Otay Ranch RMP and MSCP Preserve.
American badger (*Taxidea taxus*)	None SSC Covered Group 2	No preservation requirements	This species would be covered by the MSCP because 58% of its potential habitat would be conserved.	The Land Exchange Alternative would preserve 89% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.
Invertebrates				
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE None Not Covered Group 1	The RMP states that the San Diego fairy shrimp is widespread on Otay Ranch, although most common in the vernal pool areas, which will be included in the Preserve. Table 5 of the RMP indicates 100% of the Otay Ranch populations of this species retained in the Preserve.	This species would be covered by the MSCP because 88% of its potential habitat (vernal pool habitat) would be conserved.	The Land Exchange Alternative would preserve 100% of features within the Otay Ranch RMP and MSCP Preserve.
monarch (*Danaus plexippus*)	None None Not Covered Group 2	No preservation requirements	This species is not a Covered Species.	The Land Exchange Alternative would preserve 54% of suitable habitat within the Otay Ranch RMP and MSCP Preserve.

3.3 Habitat Connectivity and Wildlife Corridors

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the immigration and emigration of animals. Wildlife corridors contribute to population viability by ensuring the continual exchange of genes between populations, which helps maintain genetic diversity; providing access to adjacent habitat areas, representing additional territory for foraging and mating; allowing for a greater carrying capacity; and providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires).

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. The linkage does represent a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as reptiles and amphibians. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as "stepping stones" for dispersal.

The MSCP Plan identifies 16 Biological Resource Core Areas (BRCAs) and associated habitat linkages within the MSCP Study Area. BRCAs are generally defined in the MSCP as areas "supporting a high concentration of sensitive biological resources, which, if lost or fragmented, could not be replaced or mitigated elsewhere." Figure 2-2, Generalized Core and Biological Resources Area and Linkages, included in the MSCP Plan depicts portions of Village 14 almost entirely within the Jamul Mountains BRCA with a small portion within the Sweetwater Reservoir/San Miguel Mountain/Sweetwater River BRCA (Figure 3-3, Biological Resources Core Area). The Southern portions of Planning Areas 16/19 are located within the Jamul Mountains BRCA.

The Baldwin Otay Ranch Wildlife Corridors Studies Report (Ogden 1992) identifies several local and regional wildlife corridors in the Land Exchange Area. Figure 3-4, Habitat Linkages/Movement Corridors Post Land-exchange and Boundary Line Adjustment, shows the locations of these corridors in conjunction with land ownership. Although landscapes in San Diego County have changed significantly over the last two decades, the corridors identified in this study are still viable and currently traverse between large areas of open lands. As shown on Figure 3-4, these corridors are given identifications and are primarily located within public lands that provide undeveloped areas connected to each other that support wildlife movement across the landscape, including movement between various reservoirs, creeks, and upland habitats.

The L4 corridor traverses the Proctor Valley drainage and facilitates movement of species such as birds, small mammals, reptiles, and some amphibians. The corridor is within open space managed by various entities except for the point at which it crosses the southern portion of Proctor Valley Road. The corridor would remain within open space. Within the Land Exchange Area, it traverses chamise chaparral, cismontane alkali marsh, coastal sage scrub vegetation types, non-native grassland, open water, unvegetated channel, developed land, and disturbed habitat. This corridor connects to L3 in the northern portion, which then passes south through the BLM land in the eastern portion connecting to R1. Where L3 connects to L4 in the south, L3 continues east through Otay Ranch RMP Preserve lands and MCSP Preserve lands, and BLM land and connects to R7 near the Jamul and San Ysidro Mountains. The L3 corridor is composed of two sections, the southern one that runs mostly east/west, and the northern one that runs mostly north/south. With the Land Exchange Area, it traverses Diegan coastal sage scrub,

disturbed habitat, non-native grassland, open water, and southern mixed chaparral. A regional corridor R1 is designated in a general east/west direction and follows along drainages toward Sweetwater Reservoir to the west and Jamul Mountains to the east. Species that travel farther distances could use this corridor as part of their home range or dispersal, including mule deer, coyote, and cougar, as well as birds and other species. The R1 corridor traverses chamise chaparral, coastal sage scrub vegetation types, non-native grassland, vernal pools, developed land, and disturbed habitat within the Land Exchange Area. Because Proctor Valley is situated adjacent to Otay and Sweetwater Reservoirs, it could be used as a stopover or foraging area for species travel between the reservoirs. All of the R1 corridor would remain within the Otay Ranch RMP Preserve. To facilitate wildlife movement across Proctor Valley Road, which currently crosses the R1 corridor, a wildlife crossing would be installed (Figure 3-4).

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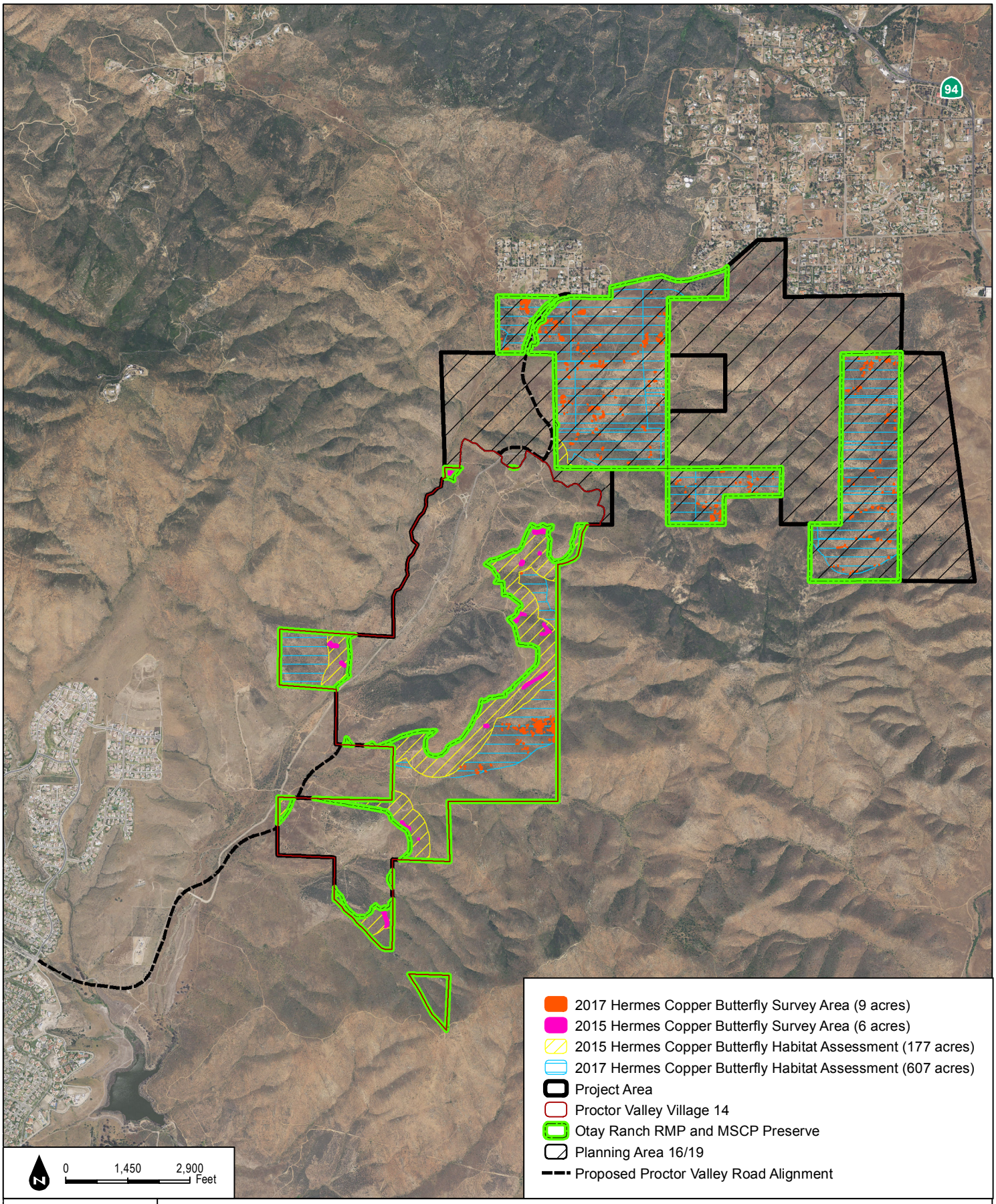

SOURCE: NAIP 2016; Hunsaker 2017

FIGURE 3-2

Hermes Copper Survey Area

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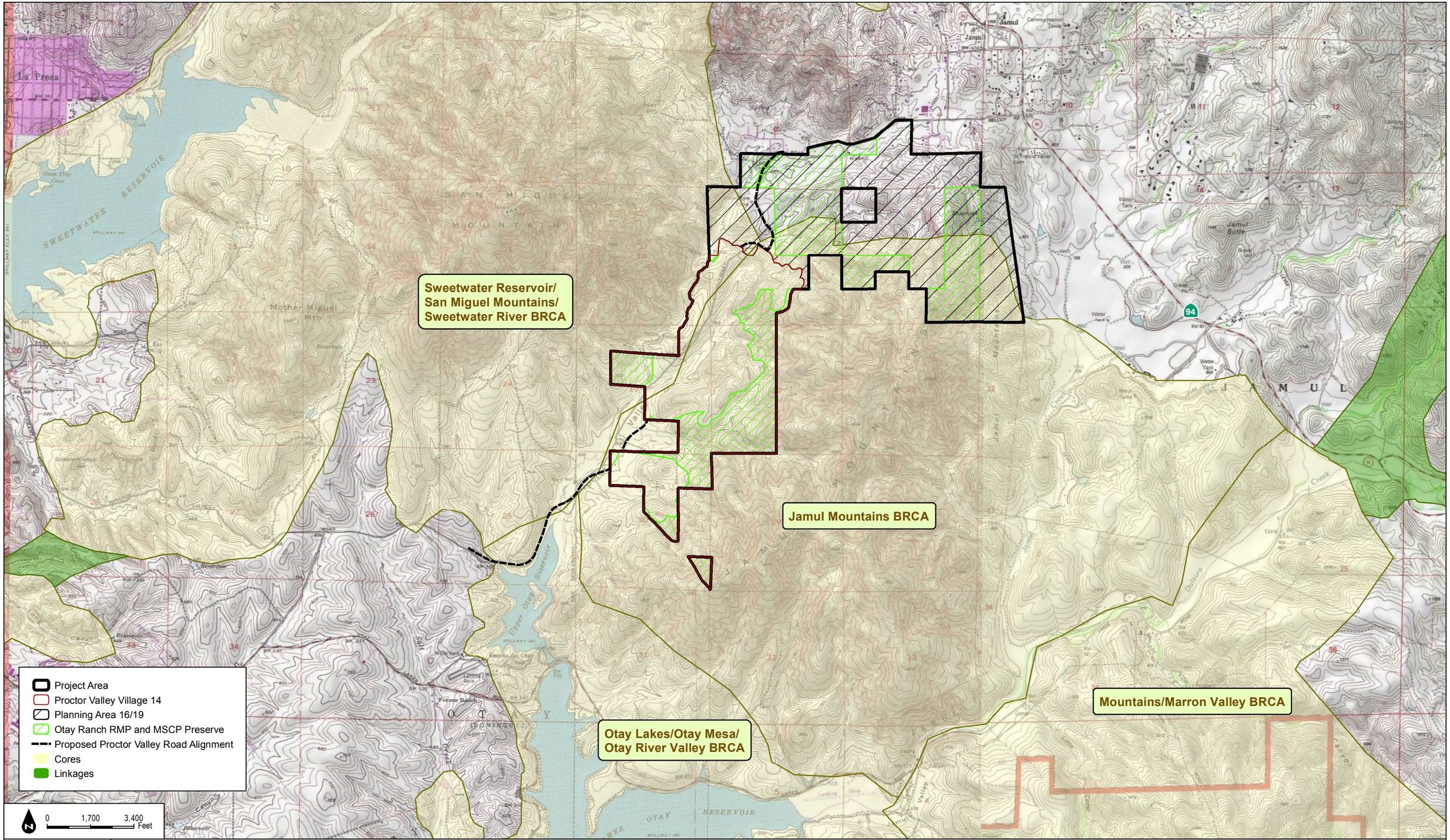

SOURCE: Hunsaker 2017; SANGIS 2017

DUDEK

FIGURE 3-3

Biological Resources Core Area

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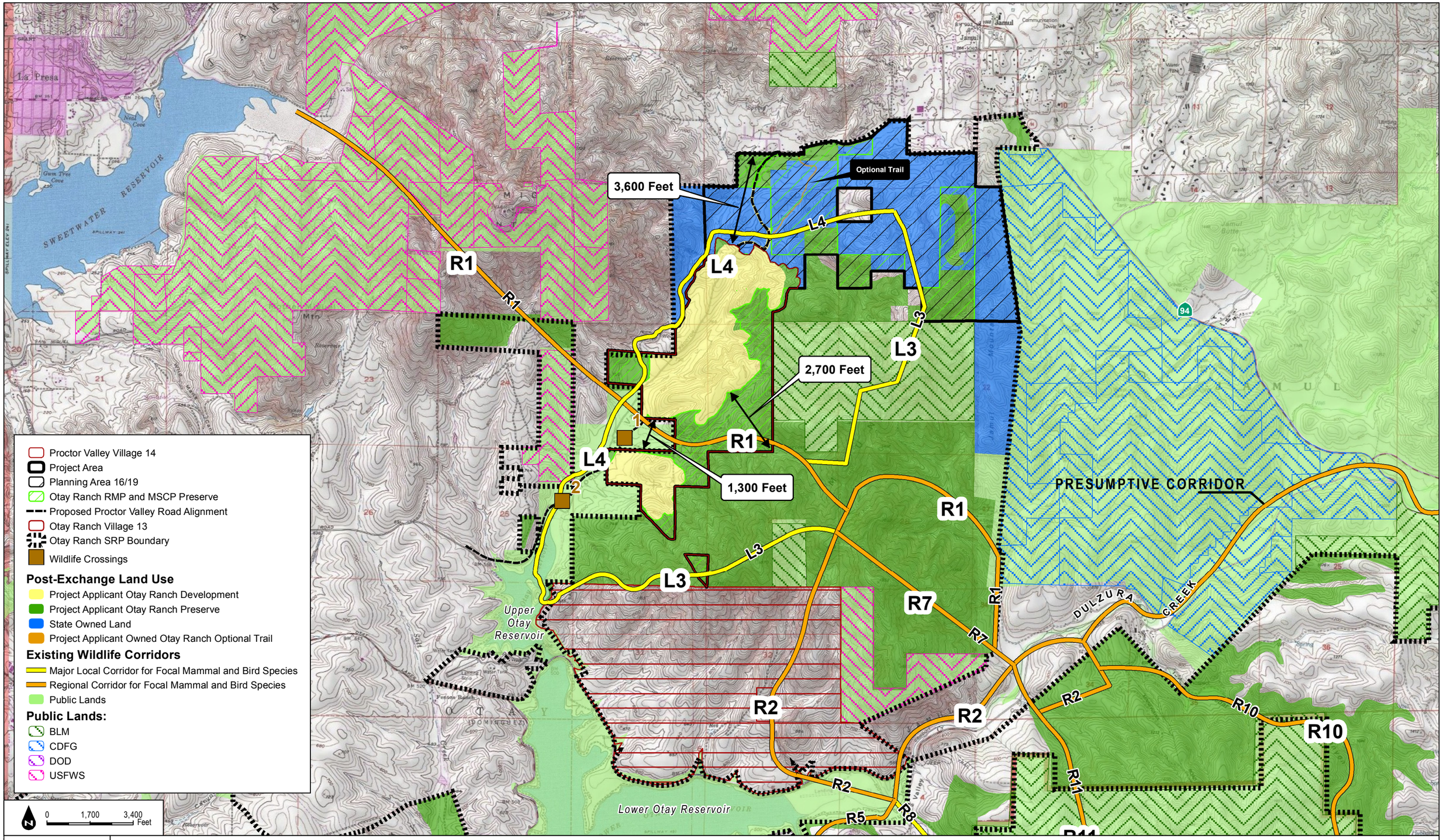

SOURCE: Hunsaker 2017; SANGIS 2003; OGDEN 1992; County of San Diego 1997

FIGURE 3-4

Habitat Linkages/Movement Corridors Post Land-exchange and Boundary Line Adjustment

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