

Property Boundary

Development

Preserve

Quino Survey Area

Excluded Areas 2015

USFWS Quino Data

Castilleja spp.*

HELIX August 2015 Assessment

Potential Quino Resource Areas

Potential Quino Resource Area

*Includes both *Castilleja exserta* and *Castilleja densillera* species


SOURCE: SanGIS 2014, Hunsacker 2017, HELIX 2016


2015 Quino Host Plant Mapping, Potential Resource Areas, and Historical Locations


Otay Ranch Village 14 and Planning Area 16/19 - Land Exchange Alternative


Figure 4-3bb

INTENTIONALLY LEFT BLANK


Property Boundary

Preserve

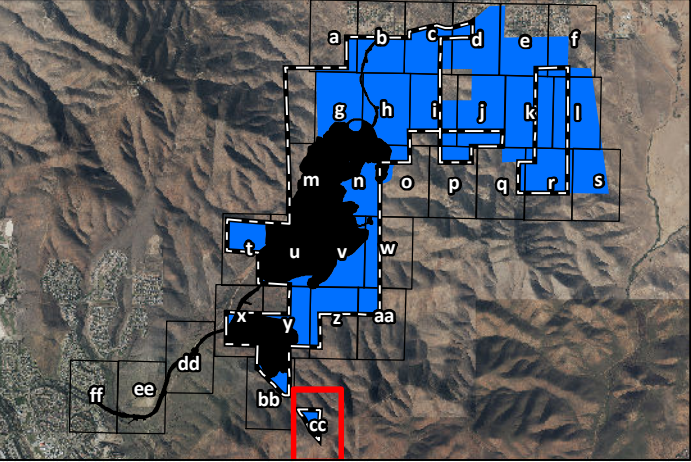
CNDDDB Quino Data

USFWS Quino Data

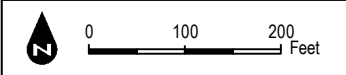
HELIX August 2015 Assessment

Potential Quino Resource Areas

*Includes both *Castilleja exserta* and *Castilleja densillera* species



2000XXXX 2000
2009



INTENTIONALLY LEFT BLANK




SOURCE: SanGIS 2014, Hunsacker 2017, HELIX 2016


DUDEK


Figure 4-3dd
2015 Quino Host Plant Mapping, Potential Resource Areas, and Historical Locations


Otay Ranch Village 14 and Planning Area 16/19 - Land Exchange Alternative


INTENTIONALLY LEFT BLANK

 Property Boundary


 Development

 Quino Survey Area

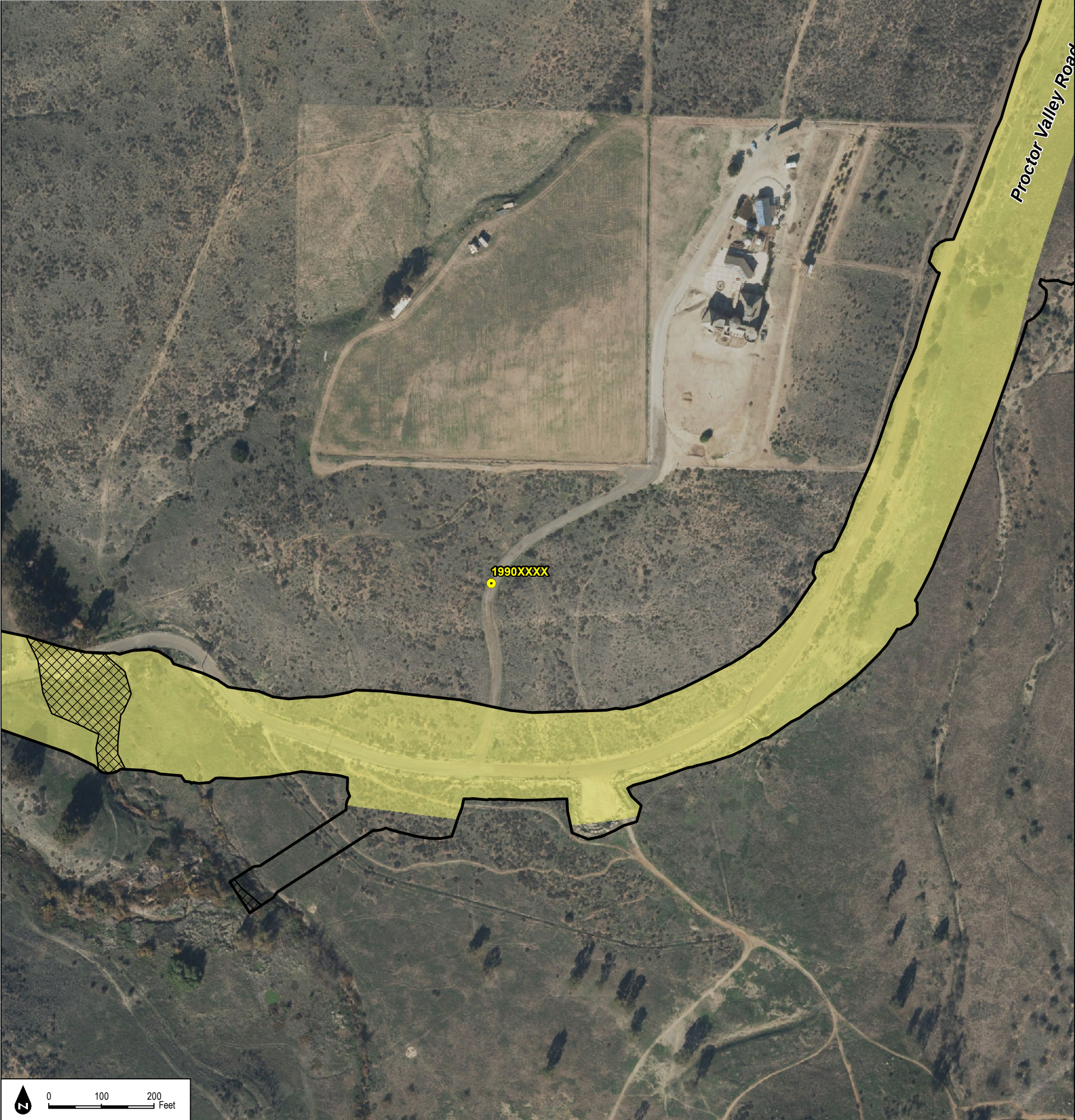
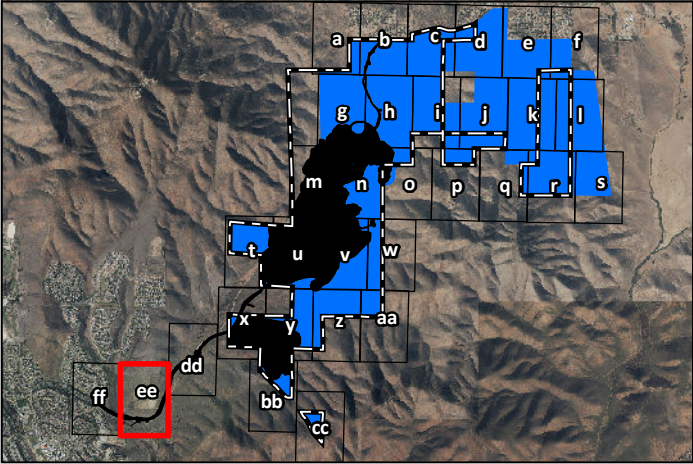
 Excluded Areas 2015

 CNDDDB Quino Data

HELIX August 2015 Assessment

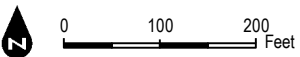
 Potential Quino Resource Areas

*Includes both *Castilleja exserta* and *Castilleja densillera* species



Proctor Valley Road

1990XXXX



DUDEK

SOURCE: SanGIS 2014, Hunsacker 2017, HELIX 2016

2015 Quino Host Plant Mapping, Potential Resource Areas, and Historical Locations

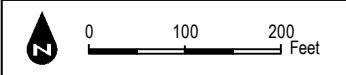
Otay Ranch Village 14 and Planning Area 16/19 - Land Exchange Alternative

Figure 4-3ee

INTENTIONALLY LEFT BLANK

Property Boundary
 Development
 Quino Survey Area
 Excluded Areas 2015

HELIX August 2015 Assessment
 Potential Quino Resource Areas
 *Includes both *Castilleja exserta* and *Castilleja densillera* species



INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Host Plant Distribution within the Development Footprint

2016 Host Plant Mapping

The 2016 host plant distribution shown on Figure 3-1b reflects an above-average year for host plant expression based on the feedback from the biologists who completed the surveys in 2016 and the County of San Diego's biologist. Host plants that were mapped in 2016 generally occurred in the same areas as in 2015, but occurred in lower densities as compared to 2015. A total of 6.1 acres of Quino checkerspot butterfly host plants were mapped within the Development Footprint portion of the Land Exchange Area.

- 70% of the host plant locations (220 points/patches of the 312 total host plant locations) were mapped as Low density (1 to 100 individuals).
- 23% of the host plant locations (71 points/patches of the 312 total host plant locations) were mapped as Medium density (100 to 1,000 individuals).
- 7% of the host plant locations (21 points/patches of the 312 total host plant locations) were mapped as High density (1,000 to 10,000 individuals).
- A majority of the areas with High densities of host plants within the Development Footprint in 2016 occurred within small openings of larger tracts of chaparral, with the other higher density patches occurring in sage scrub and non-native grassland areas.
- One of the High density areas in the eastern portion of the central Village 14 Development Footprint actually appears to be an area that was previously cleared of vegetation, possibly as part of historical firebreaks, past firefighting activities, or some other physical disturbance (i.e., approximately 300 feet southeast of Historical Sighting 1).

To summarize the 2016 survey data, the majority of the host plant locations within the Village 14 Development footprint (258 of the 312 mapped locations; 83%) were small patches ranging from a few square feet to 250 square feet in size. Furthermore, of the 258 locations, the overwhelming majority of these (252 of the 258 locations; 98%) were Low density (1 to 100 plants) or Medium density (100 to 1,000 plants), and most occurred within a matrix of chaparral and coastal sage scrub habitats.

2015 Host Plant Mapping

The 2015 host plant distribution shown on Figures 4-3a through 4-3ff reflects a more substantial host plant expression within the Village 14 Development Footprint because 2015 was an excellent year for host plants.

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Note also that focused 2015 host plant mapping and surveys were conducted only for the Village 14 Development Footprint as described in this report. For this reason, 2015 host plant mapping provided in Figures 4-3a through 4-3ff does not represent a comprehensive assessment of the entire Land Exchange Alternative. Nevertheless, the mapping data is discussed in this report to provide context for the general expression of resources in 2015. Note, however, that host plants were mapped in Planning Areas 16/19 during the 2016 survey. Results of the 2015 host plant mapping are summarized as follows:

- The majority of the host plant locations – both points and patches – were mapped as Low density (73 locations with 1–100 plants, representing 49% of points/patches) or Medium density (49 locations with 100–1,000 plants, representing 34% of points/patches).
- There were 17 locations within the currently proposed Village 14 Development Footprint that were mapped as High density – i.e., contained between 1,000 and 10,000 individuals (12% of points/patches). There were also 5 locations within the Village 14 Development Footprint that were mapped as Very High density – i.e., contained more than 10,000 individuals (3% of points/patches). As was the case in 2016, the 2015 surveys indicated that the majority of the high host plant areas within the Village 14 Development Footprint occurred within small openings of chaparral or were adjacent to areas excluded from surveys in 2015 because they were considered too dense to support Quino checkerspot butterfly.
- 85% of the host plant locations (including both points and patches) were mapped as Low density (1–100 plants) or Medium density (100–1,000 plants) within a matrix of chaparral.

2014 Host Plant Mapping

The 2014 focused host plant mapping conducted by Dudek only yielded four host plant patches. Since subsequent surveys and mapping resulted in greater host plant distribution, those four host plant patches are not included on any figures, nor are they discussed further.

Host Plant Distribution within the Preserve (2016 Mapping)

HELIX completed host plant mapping within the Otay Ranch RMP Preserve in 2016. A total of 2.12 acres of Quino checkerspot butterfly host plants were mapped within the Otay Ranch RMP Preserve. Results are noted below:

- 55% of the host plant locations within the Otay Ranch RMP Preserve (78 points and patches) were mapped as Low density (1–100 plants).
- 31% of the host plant locations within the Otay Ranch RMP Preserve (44 points and patches) were mapped as Medium density (100–1,000 plants).

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

- 14% of the host plant locations within the Otay Ranch RMP Preserve (19 points and patches) were mapped as High density (1,000–10,000 plants), as shown in Figure 3-1b.
- The High-density host plant locations (1,000–10,000 individuals) within the Otay Ranch RMP Preserve occurred within openings of coastal sage scrub and chaparral.

As with the Development Footprint in 2016, the majority of the host plant locations in the Otay Ranch RMP Preserve (127 of the 141 mapped locations; 90%) were small points ranging from a few square feet to 250 square feet in size. Furthermore, of the 127 locations, the overwhelming majority of these (118 of the 127 locations; 93%) were Low density (1–100 plants) or Medium density (100–1,000 plants), and most occurred within a matrix of chaparral and coastal sage scrub communities.

Hermes Copper Butterfly (Lycaena hermes), FC/County Group 1

Hermes copper butterfly is a federal candidate for listing and County Group 1 species. Hermes copper butterfly inhabits patches of spiny redberry (*Rhamnus crocea*) and California buckwheat (*Eriogonum fasciculatum*) that grows in southern mixed chaparral and coastal sage scrub (County of San Diego 2010a). The Hermes copper butterfly is endemic to San Diego County and northern Baja California. This species' adult flight period is from mid-May through early July. Nectaring species observed in the Land Exchange Area include chamise (*Adenostoma fasciculatum*), California sunflower (*Encelia californica*), slender sunflower (*Helianthus gracilentus*), poison oak (*Toxicodendron diversilobum*), and short-podded mustard (*Hirschfeldia incana*).

There are 41.2 acres of suitable habitat for this species within the Land Exchange Area. None have been observed during the 2015 and 2017 protocol surveys; however, this species could occur on the Land Exchange Area in the future if populations expand in San Diego County. There are five locations of Hermes copper butterfly within 5 miles of the Land Exchange Area recorded between 2004 and 2006 (CDFW 2017). All five occurrences are within the San Diego National Wildlife Refuge. Populations within the San Miguel Mountain portion of the refuge have been determined to be extirpated after loss of habitat during the 2007 Harris fire (Marschalek and Deutschman 2017). There were additional populations within the Rancho Jamul Ecological Preserve immediately adjacent to the Land Exchange Area; however, those populations are also assumed extirpated based on 2003 and 2007 fires within the area (Marschalek and Deutschman 2017). According to the San Diego County Hermes Copper (*Lycaena hermes*) Habitat Conservation and Management Plan prepared by Marschalek and Deutschman 2017, these previously known populations were surveyed in 2016, and no Hermes copper butterflies were observed. Based on the lack of observations during the 2015 and 2017 surveys within the Land Exchange Area, and the extirpation of surrounding populations, there is

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

a moderate potential for Hermes copper to utilize the habitat within Land Exchange Area in the future. However, based on the 2015 and 2017 surveys, the species does not currently occupy any habitat within the Land Exchange Area.

Mammals

Pallid Bat (Antrozous pallidus), SSC/County Group 2

The pallid bat is an SSC and County Group 2 species. The pallid bat is widespread throughout the western United States; southern British Columbia, Canada; and mainland and Baja, Mexico (Hermanson and O'Shea 1983; Hall 1981). Within the United States, it ranges east into southern Nebraska, western Oklahoma, and western Texas. The pallid bat occurs throughout California, except for the highest elevations of the Sierra Nevada, in Southern California counties, including Los Angeles, San Bernardino, San Diego, Riverside, Orange, and Ventura (CDFW 2016c).

The pallid bat is locally common in arid deserts (especially the Sonoran life zone) and grasslands throughout the western United States and also occurs in shrublands, woodlands, and forests at elevations up to 2,440 meters (8,000 feet) (Hermanson and O'Shea 1983). Although it prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging, it has been observed far from such areas (Hermanson and O'Shea 1983). This species has high potential to occur within the Land Exchange Area. Within the Land Exchange Area, suitable foraging habitat includes non-native grassland, chaparral (chamise chaparral, southern mixed chaparral), cismontane alkali marsh, developed, disturbed habitat, eucalyptus woodland, mulefat scrub, southern coast live oak riparian forest, open water, and coastal sage scrub (including disturbed). Focused surveys for bats were not conducted. Small patches of potential tree roosting habitat for bat species are located within the Development Footprint (eucalyptus trees), Otay Ranch RMP Preserve (eucalyptus trees, oak riparian forest, small rock outcrops), and outside of the Land Exchange Area. Large boulders, caves, or cliffs were not observed within the Land Exchange Area. These features may occur outside of the Land Exchange Area within the adjacent mountains.

Western Mastiff Bat (Eumops perotis californicus), SSC/County Group 2

The western mastiff bat is a SSC and County Group 2 species. The western mastiff bat's yearlong range includes the San Joaquin Valley, the coastal region from the San Francisco Bay area south to San Diego, and the Transverse and Peninsular mountain ranges and Mojave and Colorado deserts of Southern California (Zeiner et al. 1990b). It is absent in California from the agricultural regions of the Central Valley, northwestern California, and the Great Basin Desert of northeastern California (Zeiner et al. 1990b). Records from counties in Southern California

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

include Los Angeles, San Diego, Orange, Riverside, San Bernardino, Imperial, and Ventura (CDFW 2016c).

The western mastiff bat occurs in a wide variety of chaparral, coastal scrub, coniferous and deciduous forest and woodland, and desert scrub habitats (Best et al. 1996; Zeiner et al. 1990b). Day roosts are established in crevices in rocky canyons and cliffs where the canyon/cliff is vertical or nearly vertical (Best et al. 1996) as well as trees and tunnels (Zeiner et al. 1990b). This species has also adapted to roosting in buildings and has been observed hanging from various other kinds of man-made structures, including awnings, ledges over doors and windows, large cracks in masonry, and rafters (Best et al. 1996).

This species has high potential to occur within the Land Exchange Area. Suitable habitat within the Land Exchange Area includes chaparral (chamise chaparral including disturbed, southern mixed chaparral), cismontane alkali marsh, eucalyptus woodland, mulefat scrub, southern coast live oak riparian forest, open water, non-native grassland, and coastal sage scrub (including disturbed). Focused surveys for bats were not conducted. Small patches of potential tree roosting habitat for bat species are located within the Development Footprint (eucalyptus trees), Otay Ranch RMP Preserve (eucalyptus trees, oak riparian forest, small rock outcrops), and outside of the Land Exchange Area. Large boulders, caves, or cliffs were not observed within the Land Exchange Area. These features may occur outside of the Land Exchange Area within the adjacent mountains.

Western Red Bat (Lasiurus blossevillii), SSC /County Group 2

The western red bat is an SSC and County Group 2 species. The western red bat occurs in California from Shasta County and Mendocino County in the north, and through the central coastal region and Central Valley west of the Sierra Nevada/Cascade ranges to coastal Southern California (Cryan 2003; Zeiner et al. 1990b), east into Arizona and New Mexico, and south into Baja California and mainland Mexico to South America (Cryan 2003). It does not occur in desert regions. The western red bat was considered a subspecies of the red bat (*L. borealis teliotis*) (Shump and Shump 1982), but more recent genetic studies separated the red bat into two species: the western red bat and eastern red bat (*L. borealis*) (Baker et al. 1988; Morales and Bickham 1995). The western red bat is considered locally common.

This species has high potential to occur within the Land Exchange Area. Red bats typically roost in trees, occasionally in shrubs, and even on the ground, including habitats adjacent to streams, open fields, and urban areas (Shump and Shump 1982). Suitable foraging habitat within the Land Exchange Area includes eucalyptus woodland, and southern coast live oak riparian forest. Focused surveys for bats were not conducted. Small patches of potential tree

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

roosting habitat for bat species are located within the Development Footprint (eucalyptus trees), Otay Ranch RMP Preserve (eucalyptus trees, oak riparian forest, small rock outcrops), and outside of the Land Exchange Area. Large boulders, caves, or cliffs were not observed within the Land Exchange Area. These features may occur outside of the Land Exchange Area within the adjacent mountains.

San Diego black-tailed jackrabbit (Lepus californicus bennettii), SSC/County Group 2

The San Diego black-tailed jackrabbit is an SSC and County Group 2 species. It is confined to coastal Southern California, with marginal eastern records being Mount Piños, Arroyo Seco, Pasadena, San Felipe Valley, and Jacumba (Hall 1981). It is found in many diverse habitats, but primarily in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to move quickly, and the openness of open scrub habitat likely is preferred over dense chaparral. Jackrabbits are common in grasslands that are overgrazed by cattle, and they are well adapted to using low-intensity agricultural habitats (Hall 1981).

This species was observed throughout the Land Exchange Alternative during biological surveys (Figures 4-1 through 4-1ff). Due to the high mobility of this species, not all observations were mapped. This species can occur throughout the upland vegetation communities within the Land Exchange Area.

San Diego desert woodrat (Neotoma lepida intermedia), SSC/County Group 2

San Diego desert woodrat is an 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 the 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 has potential to occur within the Land Exchange Area. Suitable habitat within the Land Exchange Area includes upland vegetation communities.

Big Free-Tailed Bat (Nyctinomops macrotis), SSC/County Group 2

The big free-tailed bat is an SSC and County Group 2 species. The big free-tailed bat occurs in urban areas throughout Southern California counties, including Los Angeles, San Diego,

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Riverside, Imperial, and Orange (CDFW 2016c). Common habitat includes roosts in buildings, caves, and occasionally in holes in trees (Parish and Jones 1999). The free-tailed bat often forages over water sources and is not known to breed in California (Zeiner et al. 1990b).

This species has high potential to occur within the Land Exchange Area. Within the study area, suitable foraging habitat includes chaparral (chamise chaparral including disturbed, southern mixed chaparral), disturbed habitat, eucalyptus woodland, mulefat scrub, southern coast live oak riparian forest, non-native grassland, and coastal sage scrub (including disturbed). Focused surveys for bats were not conducted. Patches of potential tree roosting habitat for bat species are located within the Development Footprint, Otay Ranch RMP Preserve, and outside of the Land Exchange Area. Large boulders, caves, or cliffs were not observed within the Land Exchange Area. These features may occur outside of the Land Exchange Area within the adjacent mountains.

American badger (Taxidea taxus), SSC/MSCP Covered Species/County Group 2

American badger is an SSC, MSCP Covered Species, 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 nesting 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.

Within the Land Exchange Area, an American badger burrow was documented in the Planning Areas 16/19 Preserve. The burrow showed distinct claw marks indicative of a badger burrow.

4.6.2 County Group 2 Species

County Group 2 species that have been observed in the Land Exchange Area are described as follows and included in Appendix J-1. Additional species that have moderate or high potential to occur are described in more detail in Appendix J-1.

Reptiles

Coronado Skink (Plestiodon skiltonianus interparietalis) WL/County Group 2

The Coronado skink is a WL and County Group 2 species. This species is common within grassland, woodlands, pine forests, chaparral, especially open sunny areas (e.g., clearings, edges of creeks) and rocky areas near streams with lots of vegetation. However, this species may also

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

be found in areas away from water. The Coronado skink is found in inland Southern California south through the north Pacific coast region of northern Baja California (Nafis 2014).

Although Coronado skink was not detected during surveys, this species has high potential to occur within the Land Exchange Area.

Suitable habitat occurs in the Land Exchange Area and includes chaparral (southern mixed chaparral, chamise chaparral including disturbed), and eucalyptus woodland.

Orangethroat Whiptail (Aspidoscelis hyperythra), WL/MSCP Covered Species/County Group 2

The orangethroat whiptail is a WL, MSCP Covered Species, and County Group 2 species. Orangethroat whiptail inhabits coastal scrub, chamise–redshank chaparral, mixed chaparral, and valley–foothill hardwood habitats (Zeiner et al. 1988–1990). In California, its range extends in Orange, Riverside, and San Diego counties west of the crest of the Peninsular Ranges in elevations from sea level to 1,040 meters (3,412 feet) (Jennings and Hayes 1994). Individuals seek cover in dense vegetation, rocks, logs, and decaying vegetation.

Orangethroat whiptail has high potential to occur within the Land Exchange Area. Within the study area, suitable habitat includes chaparral (chamise chaparral including disturbed, southern mixed chaparral), coastal sage scrub (including disturbed), disturbed habitat, eucalyptus woodland, mulefat scrub, and southern coast live oak riparian forest.

Rosy boa (Lichanura trivirgata), County Group 2

Rosy boa 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 Otay Ranch Village 14 Preserve, east of the Development Footprint (Figures 4-1 through 4-1ff), and there is suitable habitat in the vegetation communities with rocky outcroppings.

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Birds

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

The 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 (Grinnell and Miller 1944; Beason 1995). 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 4-1 through 4-1ff). However, due to the high mobility of this species not all observations were mapped. Mapped locations include observations in Otay Ranch RMP Preserve in Village 14 and Planning Areas 16/19. There is suitable foraging and nesting habitat within the Land Exchange Area.

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

Western bluebird is an MSCP Covered Species and County Group 2 species. They are common resident birds in the 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 CNDDDB.

Western bluebirds were observed during surveys. One observation was mapped along Proctor Valley Road North at the edge of the Land Exchange Area. There is suitable nesting habitat within the eucalyptus trees. Suitable foraging habitat Land Exchange Alternative includes many of the vegetation communities in the Land Exchange Area.

Barn Owl (Tyto alba), County Group 2

The barn owl is a not listed by federal or state agencies, but 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 the County, it is an uncommon permanent resident and occurs in urban settings, roosting in buildings, palm leaves, and nest boxes.

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Barn owls do not seem to utilize 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 Land Exchange Area, but its specific 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 Area includes the majority of the vegetation communities.

Mammals

Yuma Myotis (Myotis yumanensis), County Group 2

The Yuma myotis not considered special status by any state or federal agencies; however, it is a County Group 2 species. It occurs throughout California except for the most arid areas of the Mojave and Colorado deserts (Zeiner et al. 1990b). Records from counties in Southern California include San Diego, San Bernardino, Los Angeles, Riverside, Imperial, and Orange (CDFW 2016c). Although the Yuma myotis occurs in a wide variety of life zones at elevations ranging from sea level to 3,300 meters (10,820 feet), its actual distribution is closely associated with access to water (Zeiner et al. 1990b). Forests and woodlands are primary habitats, and foraging usually occurs within open, uncluttered habitats and low over water sources, such as ponds, streams, and stock ponds (Brigham et al. 1992; Zeiner et al. 1990b).

This species has high potential to occur within the Land Exchange Area. Suitable foraging habitat includes chaparral (chamise chaparral, including disturbed, southern mixed chaparral), cismontane alkali marsh, coastal sage scrub (including disturbed), eucalyptus woodland, mulefat scrub, non-native grassland, and southern coast live oak riparian forest. Focused surveys for bats were not conducted. Small patches of potential tree roosting habitat for bat species are located within the Development Footprint (eucalyptus trees), Otay Ranch RMP Preserve (eucalyptus trees, oak riparian forest, small rock outcrops), and outside of the Land Exchange Area. Large boulders, caves, or cliffs were not observed within the Land Exchange Area. These features may occur outside of the Land Exchange Area within the adjacent mountains.

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

Mule deer is an MSCP Covered Species 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,

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

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 Land Exchange Area.

Cougar (Puma concolor), MSCP Covered Species/County Group 2

The cougar is an MSCP Covered Species and County Group 2 species, and is considered a Specially Protected Mammal under California Fish and Game Code Section 4800. Its range throughout California extends from deserts to humid forests in the Coast Ranges and from sea level to 3,050 meters (10,000 feet) amsl. They are most abundant in habitats that support their primary prey, mule deer, and their seasonal movements tend to follow migrating deer herds.

Cougars prefer habitats that provide cover, such as thickets in brush and timber in woodland vegetation (Zeiner et al. 1990b). They also use caves and other natural cavities for cover and breeding. They require extensive areas of riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree-brush edges. Although the Land Exchange Alternative lacks riparian habitats, suitable rocky outcrops, irregular terrain, good connectivity to large open spaces may serve as suitable habitat for this species.

This species has a high potential to move through the Land Exchange Alternative, and cougar sign (scat) was observed the northwestern portion of site during gnatcatcher surveys, but the site is generally open and does not provide a lot of cover.

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

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

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 (2016a). 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.

Monarch butterfly was observed during Quino checkerspot butterfly surveys (Appendix D) and Mexican whorled milkweed (*Asclepias fascicularis*), a potential host plant, was recorded within the Land Exchange Area. There are small patches of eucalyptus within the Land Exchange Area, but they are not expected to be large enough to support wintering colonies. The nearest wintering colony of monarch butterfly in the 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).

4.7 Jurisdictional Aquatic Resources

The results of the jurisdictional delineation conducted by Dudek in 2014, 2015, and 2016 show that there are jurisdictional aquatic features in the Land Exchange Area. Jurisdictional aquatic resources, including both wetlands/riparian areas and non-wetland waters/streambeds, mapped in the Land Exchange Area are shown in Figures 4-1 through 4-1ff. Table 4-4, ACOE/RWQCB/CDFW Jurisdictional Aquatic Resources within the Land Exchange Area, provides a summary, in acreages and linear feet, of these jurisdictional aquatic resources. Within the Land Exchange Area, ACOE, RWQCB, and CDFW jurisdictions follow the same boundaries. Jurisdictional aquatic resources within the Land Exchange Area total 16.08 acres (62,454 linear feet).

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Table 4-4
**ACOE/RWQCB/CDFW Jurisdictional Aquatic Resources within the
Land Exchange Area (Acres and Linear Feet)**

Vegetation Community	Village 14		Planning Areas 16/19 Preserve		Off-Site Improvement Areas	Total Acres
	Development Footprint	Preserve ^a	Jackson Pendo/Otay Ranch RMP Preserve	State		
ACOE/RWQCB Wetlands and CDFW Riparian Areas						
Cismontane alkali marsh (including disturbed)	0.07 ac 110 lf	1.12 ac 3,063 lf	4.07 ac 2,663 lf	2.69 ac 3,159 lf	0.41 ac 268 lf	8.36 ac 9,153 lf
Mulefat scrub	0	0.20 ac 190 lf	0.01 ac 4 lf	0.35 ac 557 lf	0.42 ac 392 lf	0.98 ac 1,143 lf
Coastal freshwater marsh	0	0	0	0	0.43 ac 830 lf	0.43 ac 830 lf
Southern coast live oak riparian forest	0	0.71 ac 907 lf	0	0	0	0.71 ac 907 lf
Southern willow scrub	0	0	0	0.28 ac 457 lf	0.05 ac 90 lf	0.33 ac 547 lf
Total	0.7 ac 110 lf	2.03 ac 4,160 lf	4.08 ac 2,667 lf	3.32 ac 4,173 lf	1.31 ac 1,580 lf	10.81 ac 12,579 lf
ACOE/RWQCB Non-Wetland Waters and CDFW Streambed						
Unvegetated channel ^b	1.30 ac 15,120 lf	0.67 ac 10,104 lf	0.98 ac 6,986 lf	1.61 ac 16,247 lf	0.28 ac 1,307 lf	4.83 ac 49,464 lf
Open Water	0	0	0.28 ac 308 lf	0.16 ac 73 lf	0	0.44 ac 381 lf
Total	1.30 ac 15,120 lf	0.67 ac 10,104 lf	1.26 ac 7,294 lf	1.77ac 16,320 lf	0.28 ac 1,307 lf	5.25 ac 49,875 lf
Total Jurisdictional Aquatic Resources	1.37 ac 15,230 lf	2.69 ac 14,153 lf	5.34 ac 7,294 lf	5.09 ac 16,320 lf	1.59 ac 2,616 lf	16.08 ac 62,454 lf

ac = acres; lf = linear feet; ACOE = U.S. Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board.

^a Only includes Village 14 Preserve owned by the Land Exchange Alternative applicant (Jackson Pendo), post-exchange included in the Specific Plan. An additional 124 acres of Preserve in Village 14 is owned by the state and is not a part of Land Exchange Alternative.

^b Includes 0.66 acres of lands within state owned lands in Planning Areas 16/19 Preserve mapped using NHD. These areas are assumed to be unvegetated channels. Additional acreage in Planning Area 16 is owned by the state and is not a part of the Land Exchange Alternative.

The Land Exchange Alternative is located within the Dulzura hydrologic area of the Otay watershed, primarily within the Jamul hydrologic subarea (Hydrological Subarea Code 910.33), and Proctor hydrologic subarea (910.32). The small triangle portion of the Otay Ranch RMP Preserve in Village 14 is located within the Savage hydrologic subarea (910.31). The Land Exchange Alternative is located entirely within the Jamul and Proctor hydrologic subareas. Drainages within the Land Exchange Area flow toward Proctor Valley from the higher

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

elevations east and west of the Land Exchange Area. In general, the drainages from the higher elevations are relatively steep and narrow and do not hold water most of the year. A few areas along the flatter topography exhibit less rapid flow and have thus developed more extensive hydrophytic vegetation and hydric soils. These areas occur along portions of the stream channels and are typically represented by cismontane alkali marsh vegetation. The drainages generally connect to Proctor Valley drainage, which runs roughly parallel to Proctor Valley Road, and flows in a north/south direction, eventually draining into Upper Otay Reservoir and then Lower Otay Reservoir.

4.8 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 (1) assuring the continual exchange of genes between populations, which helps maintain genetic diversity; (2) providing access to adjacent habitat areas, representing additional territory for foraging and mating; (3) allowing for a greater carrying capacity; and (4) 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 and Planning Areas 16/19 located within the Jamul Mountains BRCA and adjacent to the Sweetwater Reservoir/San Miguel Mountain/Sweetwater River BRCA (Figure 4-4, Biological Resources Core Area). The Southern portions of Planning Areas 16/19 are a part of the Jamul Mountains BRCA.

The Baldwin Otay Ranch Wildlife Corridors Studies Report (Ogden 1992b) identifies several local and regional wildlife corridors in the Land Exchange Area. Figure 4-5, Habitat Linkages/Movement Corridors Post Land Exchange and Boundary Line Adjustment, shows the locations of these corridors in conjunction with land ownership after to the boundary adjustment

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

and land exchange. Although landscapes in the 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 in Figure 4-5, 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 currently within open space except for the point at which it crosses the southern and northern portions of Proctor Valley Road. 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/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. Within the Land Exchange Area, the L3 corridor 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 the Otay and Sweetwater Reservoirs, it could be used as a stopover or foraging area for species travel between reservoirs.

**Biological Resources Technical Report for the Otay Ranch
Village 14 and Planning Areas 16/19 Land Exchange Alternative**

INTENTIONALLY LEFT BLANK

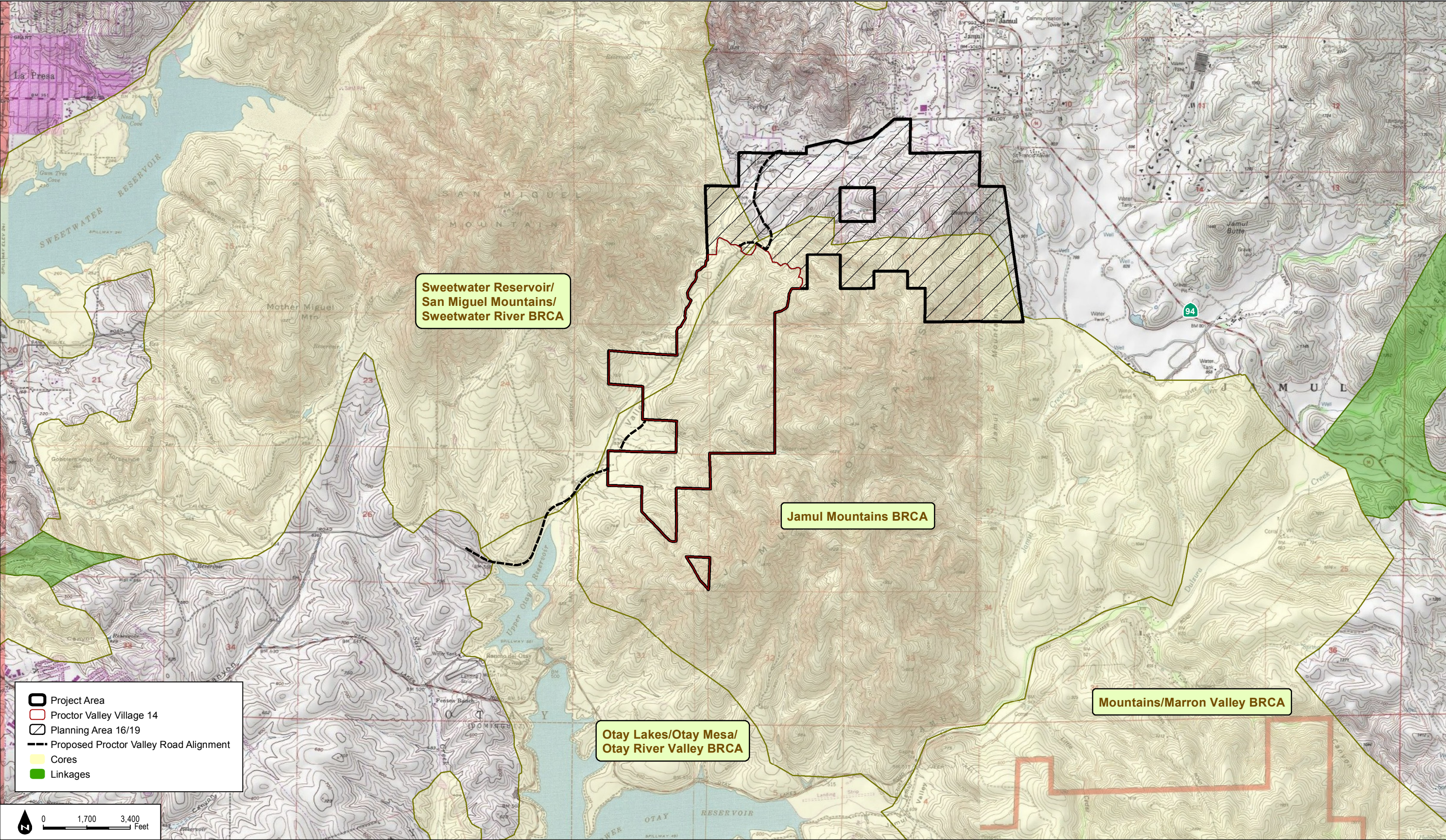
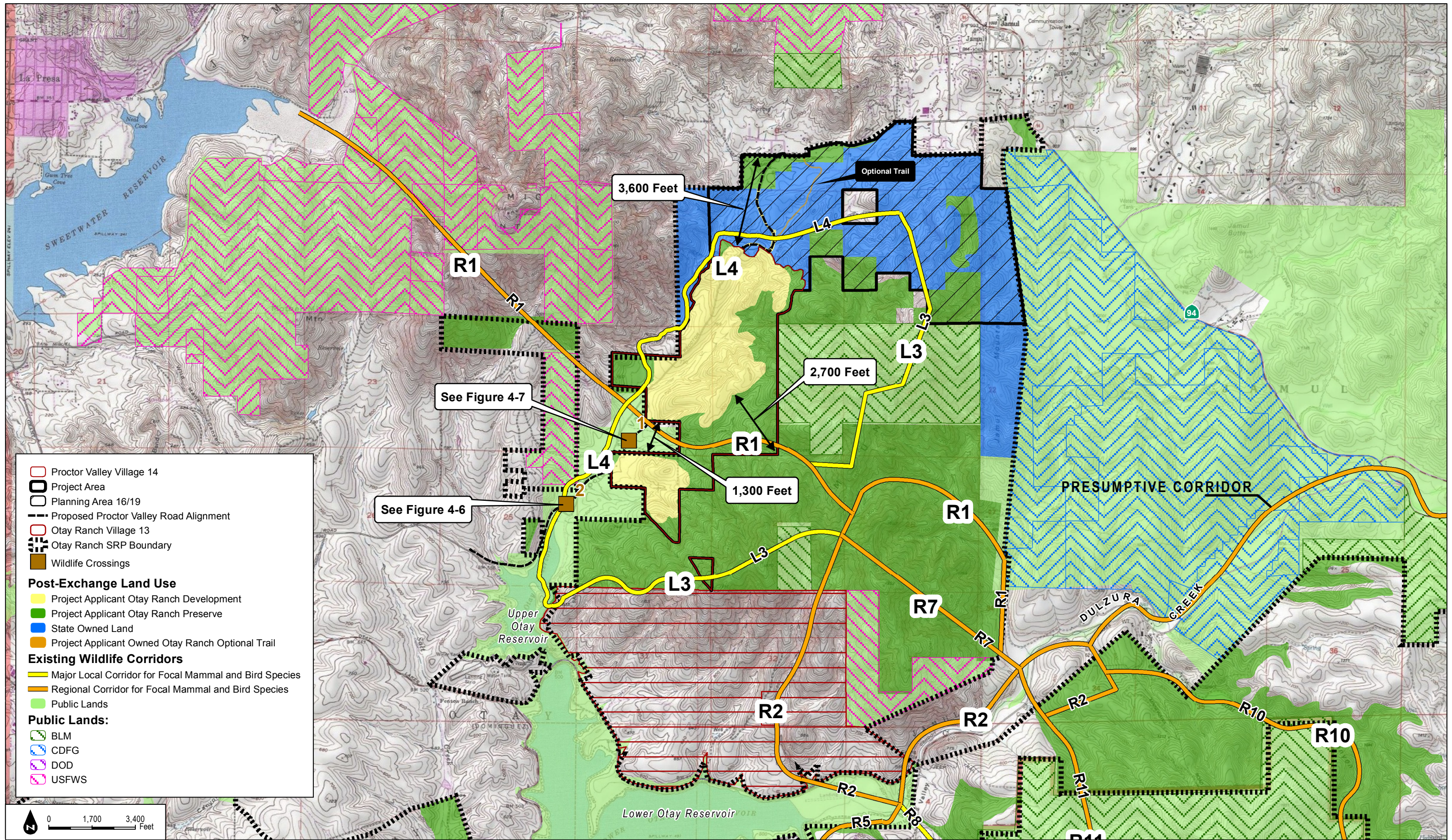


FIGURE 4-4

Biological Resources Core Area

INTENTIONALLY LEFT BLANK



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

DUDEK

Otay Ranch Village 14 and Planning Area 16/19 - Land Exchange Alternative

FIGURE 4-5

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

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

5 PROJECT EFFECTS

This section addresses direct, indirect, and cumulative impacts to biological resources that would result from implementation of the Land Exchange Alternative. A number of mitigation measures are included in the Land Exchange Alternative to avoid, minimize, and/or mitigate potential impacts to less than significant levels; these measures are summarized in Section 11.

Direct impacts were quantified by overlaying the anticipated limits of grading and fuel modification on the biological resources and quantifying impacts (Figure 5-1, Impacts to Biological Resources – Legend, and Figures 5-1a through 5-1ff, Impacts to Biological Resources). Impacts related to development of the Land Exchange Alternative within Village 14 would occur on approximately 601.7 acres, while the remainder of the Land Exchange Alternative would be designated as Otay Ranch RMP/MSCP Preserve. Additional development would occur off site on approximately 56.6 acres of land owned by City of San Diego, City of Chula Vista, CDFW, private lands, off-site areas within Otay Ranch, and on a County of San Diego road easement. These impacts are associated with improvement of Proctor Valley Road.

Indirect impacts result from adverse “edge effects,” either short-term indirect impacts related to construction, or long-term, chronic indirect impacts associated with the location of urban development in proximity to biological resources within natural open space. During construction of the Land Exchange Alternative, short-term indirect impacts may include dust and noise, which could disrupt habitat and species’ vitality temporarily; changes in hydrology; disruption of wildlife activity due to increased human activity; and construction-related chemical pollutants. However, all Land Exchange Alternative grading would be subject to restrictions and requirements that address erosion and runoff, including the federal Clean Water Act and the National Pollution Discharge Elimination System, and preparation of a stormwater pollution prevention plan (SWPPP) and Standard Urban Stormwater Management Plan. These programs are expected to minimize Land Exchange Alternative impacts with respect to erosion/runoff and the potential impacts from chemical pollutants. Long-term indirect impacts to adjacent open space may include generation of fugitive dust, intrusions by humans and domestic pets, noise, lighting, invasion by exotic plant and wildlife species, effects of toxic chemicals (fertilizers, pesticides, herbicides, and other hazardous materials), urban runoff from developed areas, litter, fire, habitat fragmentation, and hydrologic changes. As required by the Otay Ranch RMP, the Land Exchange Alternative includes a 100-foot Preserve edge buffer which is detailed in the Preserve Edge Plan. The Preserve edge is a 100-foot buffer between the Preserve and development and is not located within the Otay Ranch RMP Preserve. The 100-foot buffer is intended to lessen the edge effects of development on the Otay Ranch RMP Preserve. The Preserve Edge Plan details the uses allowed within the 100-foot-wide Preserve edge and provides a list of plant species that are appropriate adjacent to the Otay Ranch RMP Preserve. The

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Preserve Edge Plan (RH Consulting et al. 2017) addresses drainage, toxic substances, lighting, noise, fuel modification, fencing, and invasive species. The 100-foot Preserve edge buffer totals approximately 66.5 acres.

Cumulative impacts refer to incremental individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but become collectively significant as they occur over a period of time.

As described in Section 5 and supporting appendices, the Land Exchange Alternative design was prepared in close coordination with the Wildlife Agencies through several meetings in order to reduce and avoid impacts to sensitive vegetation communities, allow for wildlife movement, and prepare a well-designed Preserve configuration. Development areas were “moved” specifically to preserve important wildlife corridors, species (i.e. San Diego fairy shrimp), and associated habitat, including vernal pools. As a result, many potential impacts to special-status biological resources have been avoided and/or minimized. However, the Land Exchange Alternative would still result in impacts to sensitive biological resources as described in this section.

5.1 Riparian Habitat or Sensitive Vegetation Communities

5.1.1 Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities

5.1.1.1 Temporary Direct Impacts

Impact V-1: Temporary Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities (off-site improvements only)

Short-term, construction-related, or temporary direct impacts to vegetation communities would primarily result from construction activities, including grading that would be restored following completion of the Land Exchange Alternative. The Land Exchange Alternative’s temporary impacts will occur as a result of constructing improvements to Proctor Valley Road (including realignment of the road). All temporary impacts will occur off-site (Table 5-1a, Impacts to Vegetation Communities and Land Cover Types within Off-Site Improvement Areas). Temporary impacts total 33.4 acres with 29.5 acres of impacts to sensitive upland vegetation and 1.1 acres of impacts to jurisdictional aquatic resources. These impacts are discussed further in association with the land ownership (Impacts V3 through V-7). The majority of impacts to CDFW lands were included within the Land Exchange between the state and the applicant. However, due to adjustments to the grading associated with Proctor Valley Road North, an additional 0.8 acres of temporary impacts is required. This area will be revegetated with native habitat upon completion of the road construction. In addition, the County is contemplating increasing the right-of-way width for Proctor Valley Road North from 40 feet to approximately

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

48 feet. This would provide for two dedicated bike lanes, one on each side of the road. Increasing the right-of-way would result in an additional 0.9 acres of impacts that are anticipated to be permanent (Table 5-1b, Additional Impacts to Vegetation Communities and Land Cover Types for the Proctor Valley Road North Option). Table 5-1b provides the additional impacts to vegetation communities/land covers that would be required should this option for Proctor Valley Road North be chosen.

Table 5-1a
Impacts to Vegetation Communities and Land
Cover Types within Off-Site Improvement Areas (Acres)

Ownership	Off-Site Improvement Area	Habitat Types/Vegetation Communities	Permanent Impacts	Temporary Impacts	Total Impacts ^a
City of Chula Vista (Rolling Hills Ranch)	Proctor Valley Road South	Urban/developed	0.5	0.4	0.9
		Diegan Coastal Sage Scrub	1.9	2.1	4.0
		Eucalyptus Woodland	—	0.1	0.1
		Coastal and Valley Freshwater Marsh	0.1	0.3	0.4
		Mulefat Scrub	<0.01	<0.01	<0.01
City of Chula Vista Total			2.6	2.8	5.4
City of San Diego (in Cornerstone Lands)	Proctor Valley Road South; Proctor Valley Road Central	Urban/developed	0.4	0.2	0.6
		Diegan Coastal Sage Scrub	3.4	3.7	7.1
		disturbed Coastal Sage Scrub	4.3	5.4	9.7
		Diegan Coastal Sage Scrub - Baccharis-dominated	0.1	0.6	0.7
		disturbed Diegan Coastal Sage Scrub - Baccharis-dominated	0.3	0.3	0.6
		Disturbed Habitat	0.7	0.9	1.6
		Eucalyptus Woodland	—	<0.01	<0.01
		Mulefat Scrub	0.1	0.2	0.3
		Non-Native Grassland	3.7	6.3	10.0
		Southern Mixed Chaparral	1.7	1.5	3.2
		Unvegetated Channel	0.02	0.1	0.1
City of San Diego (Cornerstone Lands) Total			14.6	19.2	33.8
Private Property	Proctor Valley Road South	Diegan Coastal sage scrub	0.2	0.4	0.5
		Non-native grassland	0.1	<0.1	0.1
		Disturbed habitat	<0.1	0.2	0.3
Private Property Total			0.2	0.6	0.8
County of San Diego Road Easements	Proctor Valley Road North	Urban/developed	0.1	0.1	0.2
		Diegan Coastal Sage Scrub	—	<0.1	<0.1
		disturbed Coastal Sage Scrub	<0.1	<0.1	<0.1
		Non-native grassland	<0.1	<0.1	<0.1
County of San Diego Road Easements Lands Total			0.1	0.2	0.3

Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

Table 5-1a
Impacts to Vegetation Communities and Land
Cover Types within Off-Site Improvement Areas (Acres)

Ownership	Off-Site Improvement Area	Habitat Types/Vegetation Communities	Permanent Impacts	Temporary Impacts	Total Impacts ^a
Otay Ranch RMP Preserve/Applicant Ownership	Proctor Valley North	Diegan Coastal Sage Scrub	0.8	3.1	3.9
		disturbed Diegan Coastal Sage Scrub	0.3	0.7	1.0
		Granitic chamise chaparral	1.3	2.3	3.6
		Non-Native Grassland	0.7	3.1	3.7
		Cismontane alkali marsh (including disturbed)	0.1	0.3	0.4
		Mulefat scrub	—	0.2	0.2
		Southern willow scrub	<0.1	<0.1	0.1
		Disturbed habitat	0.2	0.2	0.4
		Urban/developed	2.3	0.7	3.0
Otay Ranch RMP Preserve Total			5.7	10.5	16.2
CDFW-Owned Land in Otay Ranch	Proctor Valley North	Diegan Coastal Sage Scrub	—	0.1	0.1
CDFW-Owned Land Total			—	0.1	0.1
Total ^a			23.2	33.4	56.6

^a May not total due to rounding.

Table 5-1b
Additional Impacts to Vegetation Communities and Land Cover Types
for the Proctor Valley Road North Option (Acres)

Ownership	Off-Site Improvement Area	Habitat Types/Vegetation Communities	Potential Additional Permanent Impacts
Otay Ranch RMP Preserve/Applicant Ownership	Proctor Valley North	Diegan Coastal Sage Scrub	0.1
		Non-Native Grassland	0.2
Otay Ranch RMP Preserve Total			0.3
CDFW-Owned Land in Otay Ranch	Proctor Valley North	Granitic chamise chaparral	0.3
		Diegan Coastal Sage Scrub	0.1
		Non-Native Grassland	0.2
CDFW-Owned Land Total			0.6
Total ^a			0.9

^a May not total due to rounding.

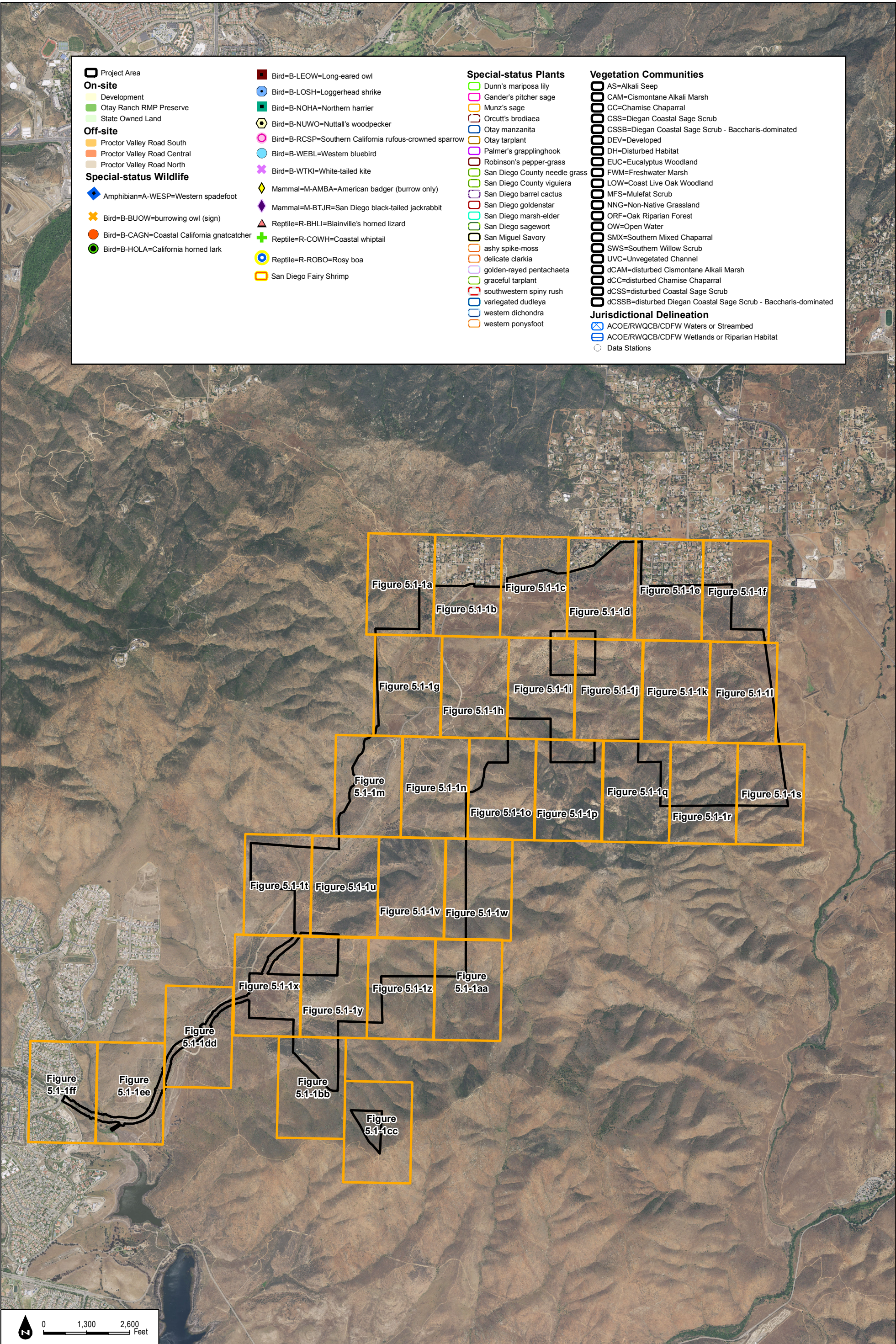
Biological Resources Technical Report for the Otay Ranch Village 14 and Planning Areas 16/19 Land Exchange Alternative

In addition, clearing, trampling, or grading of vegetation outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could damage vegetation communities and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion. As indicated above, all temporarily impacted areas will be revegetated upon completion of road construction/realignment activities.

The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1, Guidelines for the Determination of Significance.

**Biological Resources Technical Report for the Otay Ranch
Village 14 and Planning Areas 16/19 Land Exchange Alternative**

INTENTIONALLY LEFT BLANK



SOURCE: Hunsaker 2017

DUDEK

Otay Ranch Village 14 and Planning Area 16/19 - Land Exchange Alternative

FIGURE 5-1
Impacts to Biological Resources - Legend

INTENTIONALLY LEFT BLANK

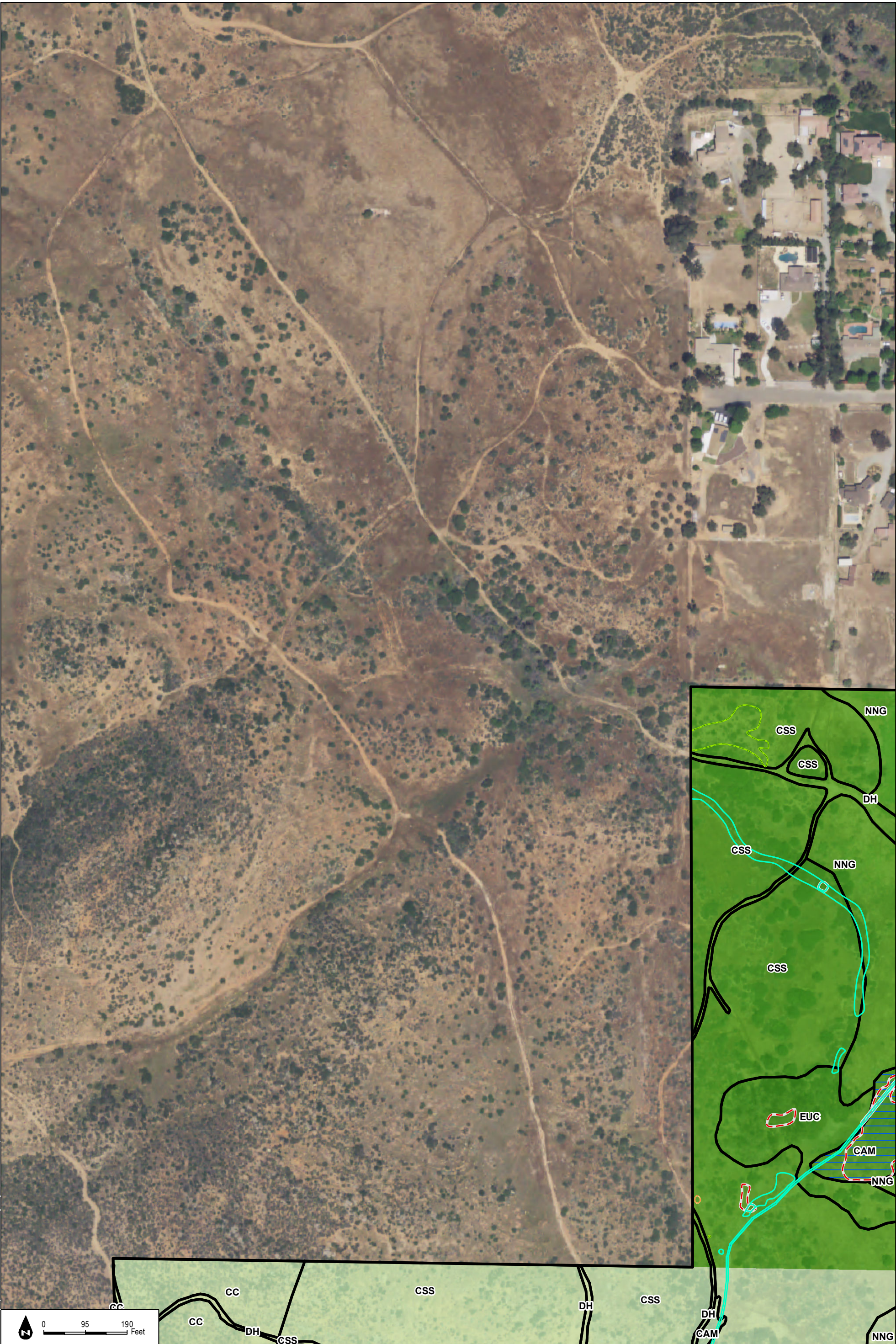


Figure 5-1a
Impacts to Biological Resources

SOURCE: NAIP 2016; Hunsaker 2017

Otay Ranch Village 14 and Planning Area 16/19 - Land Exchange Alternative

DUDEK

INTENTIONALLY LEFT BLANK