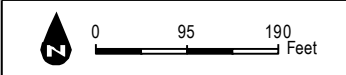
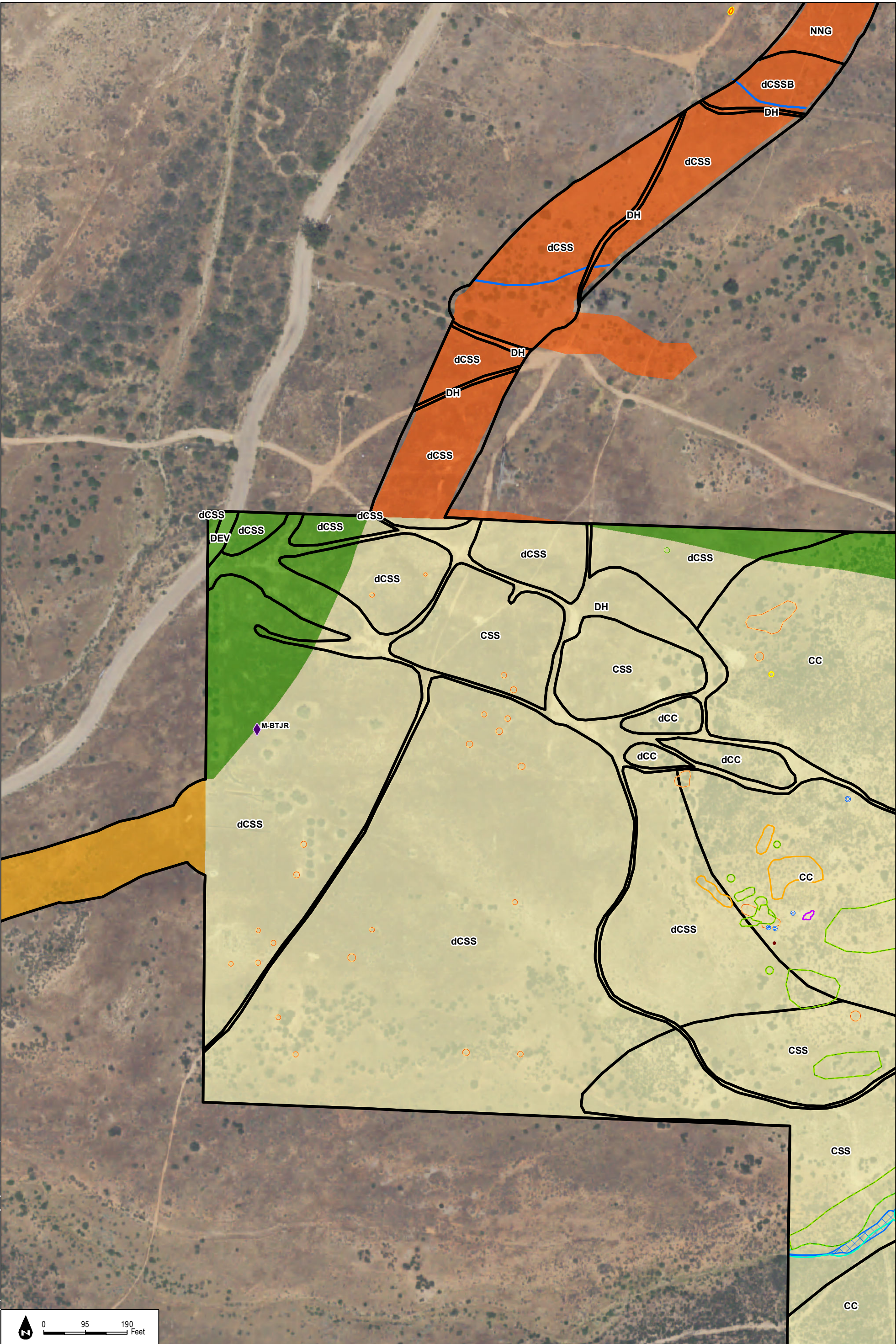
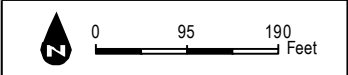
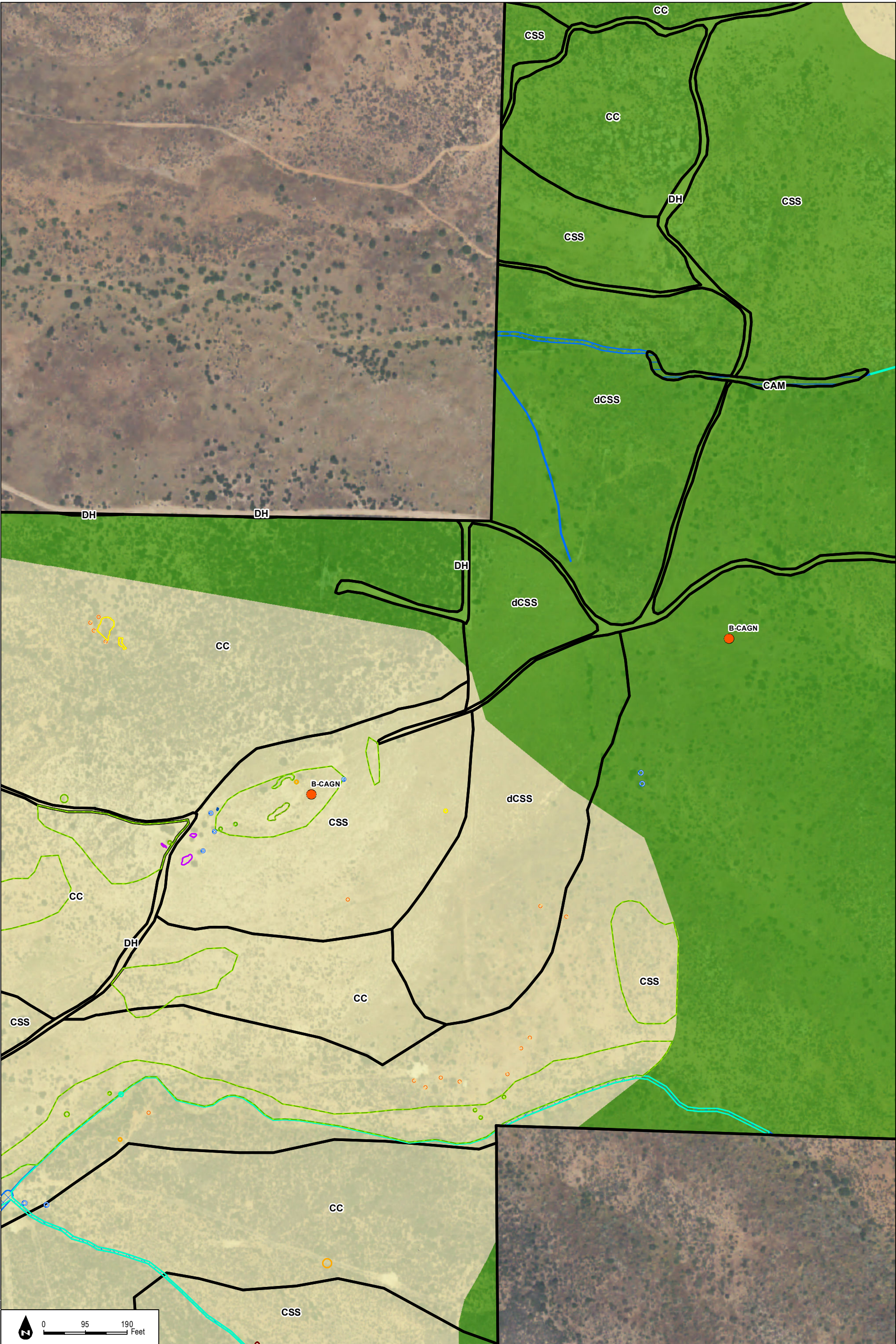


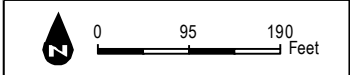
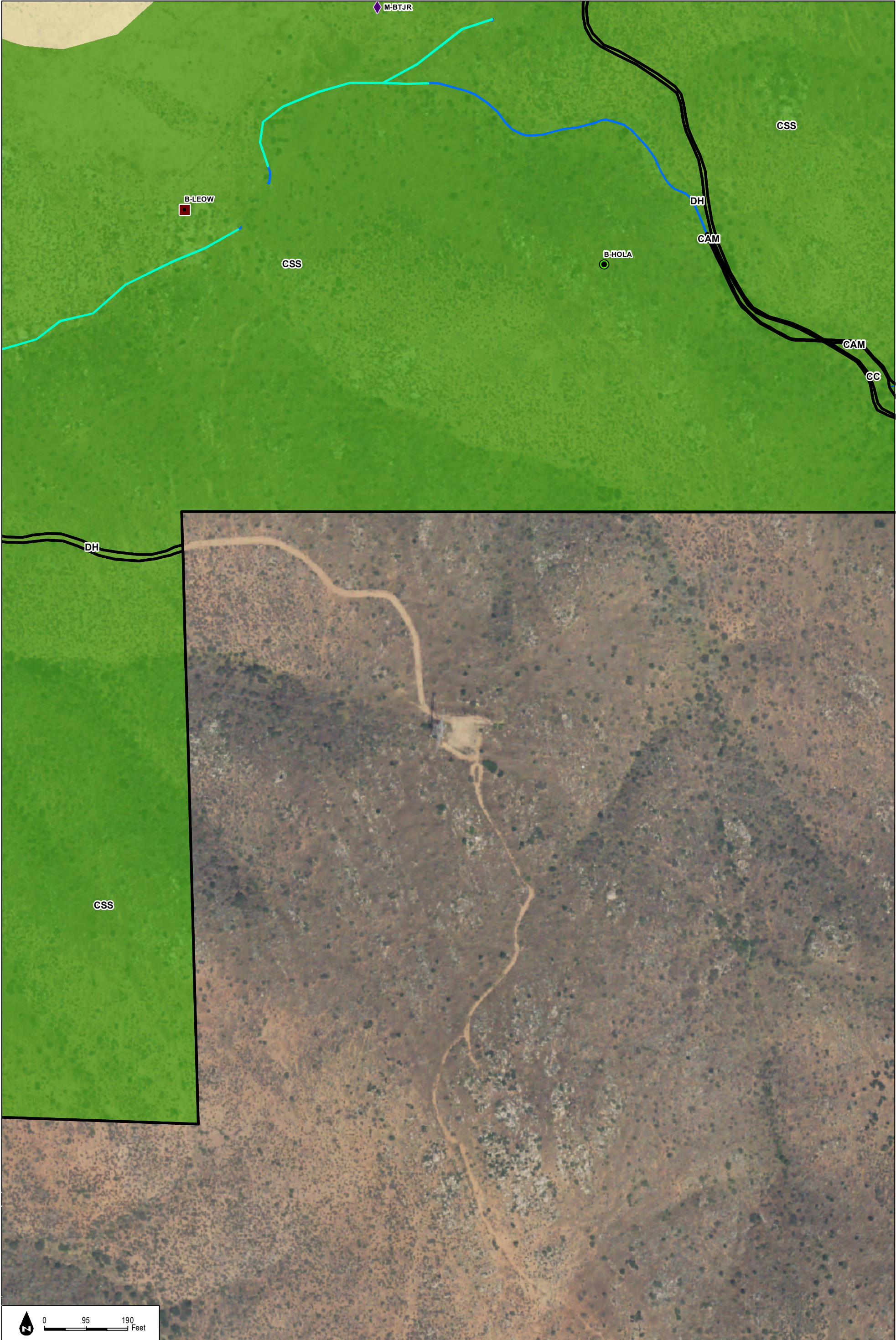
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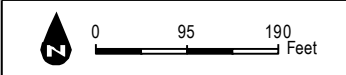
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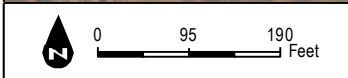
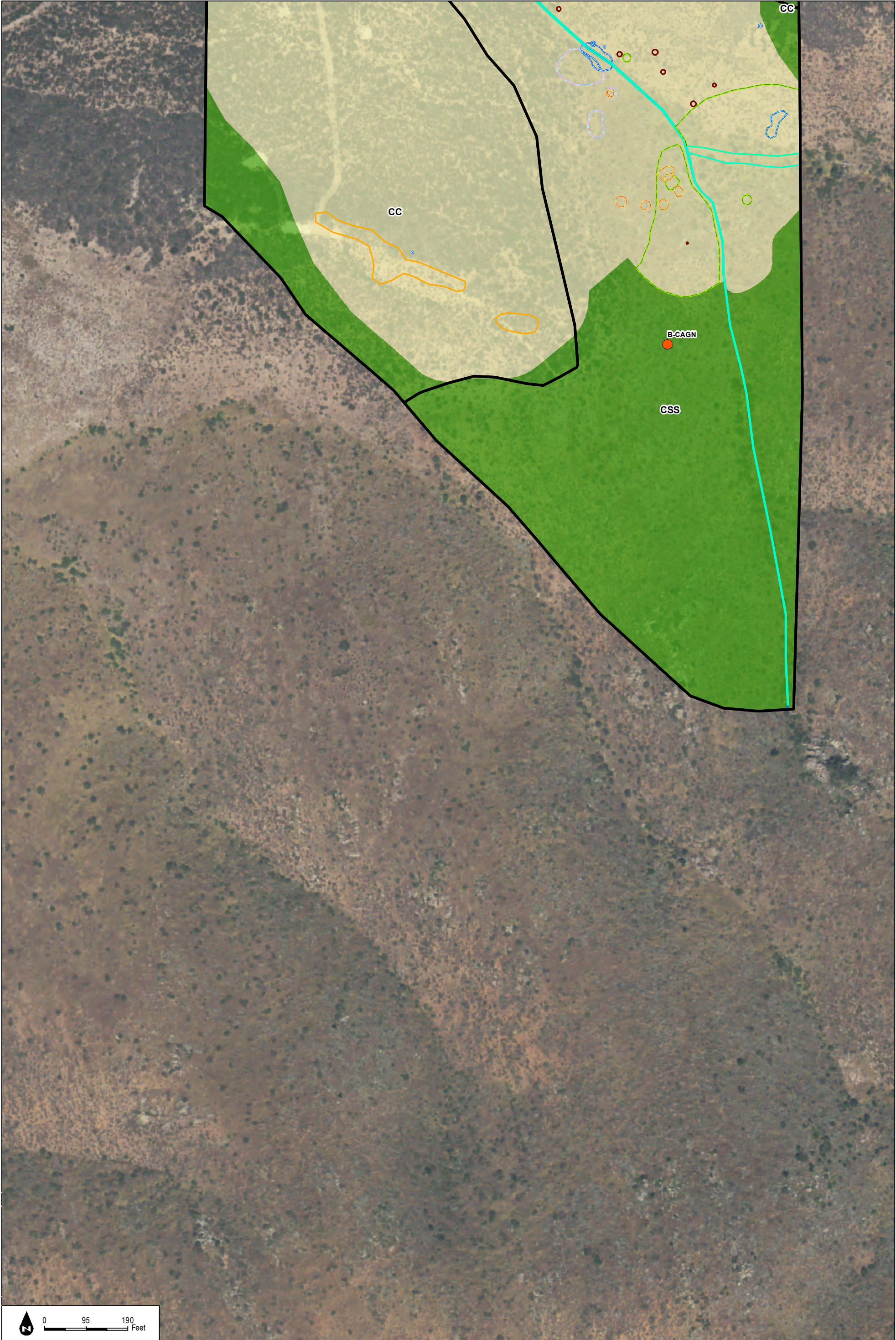
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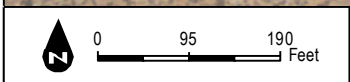
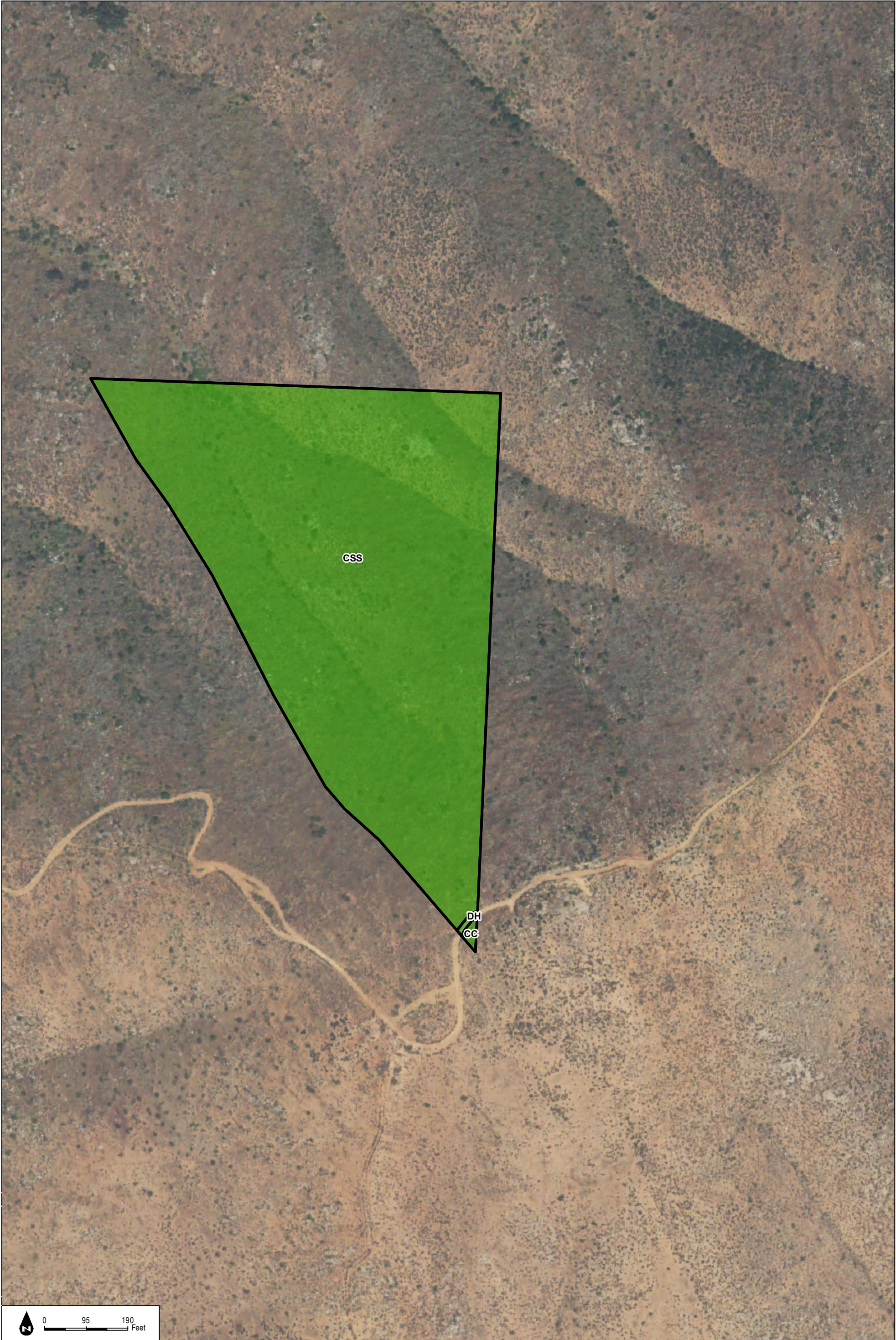
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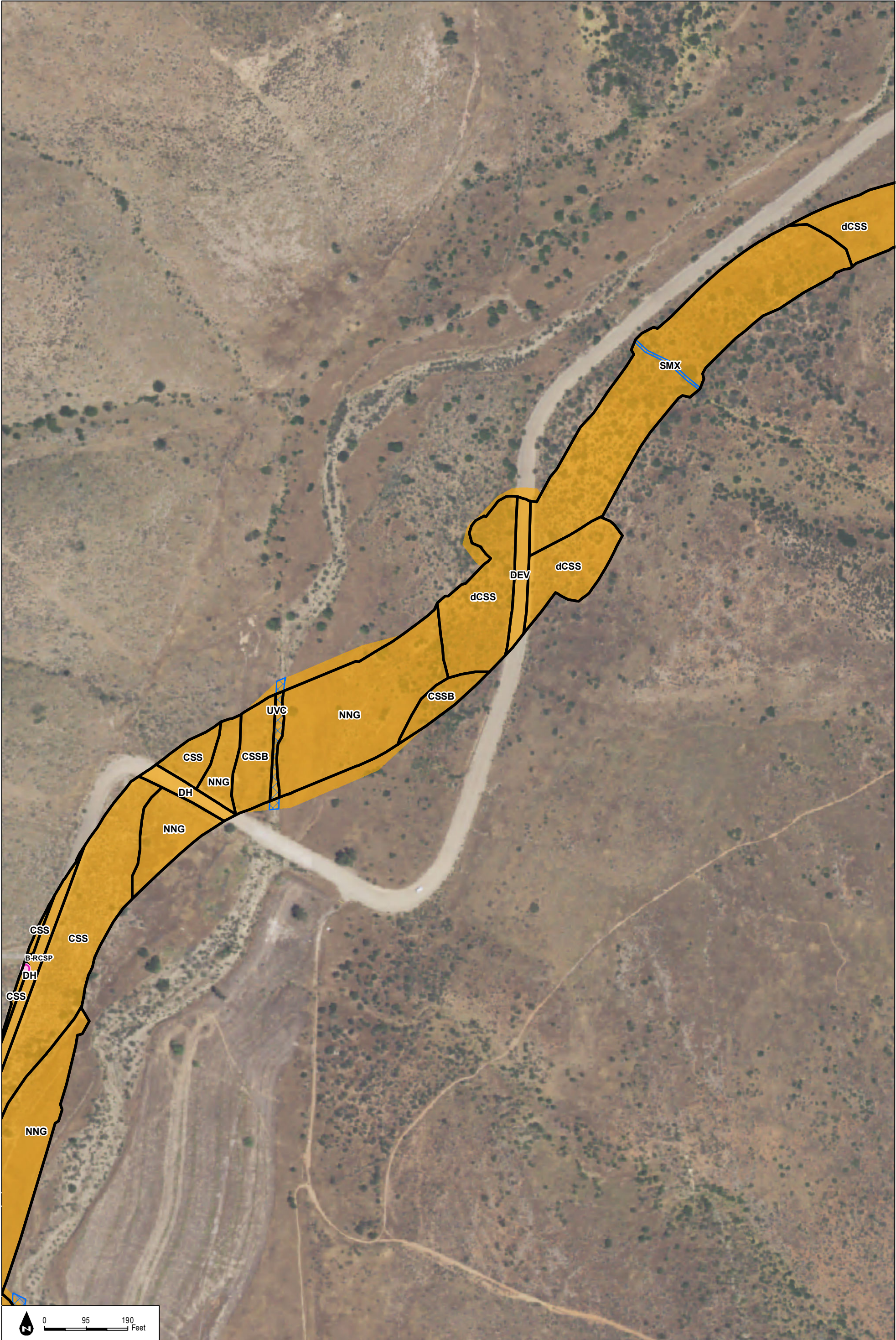
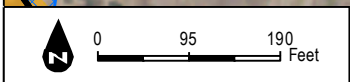


Figure 5-1dd
Impacts to Biological Resources



SOURCE: NAIP 2016; Hunsaker 2017

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

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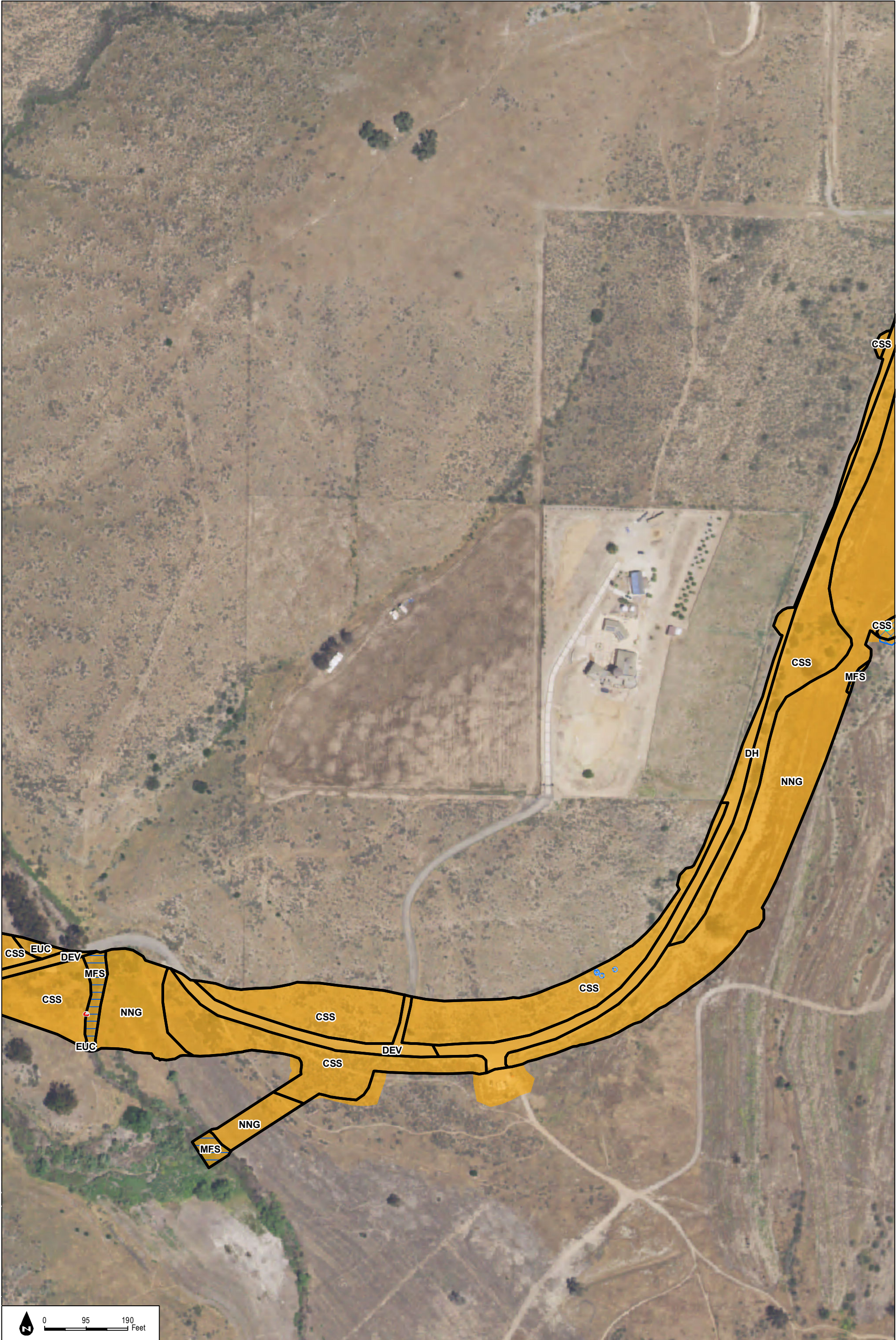


Figure 5-1ee
Impacts to Biological Resources

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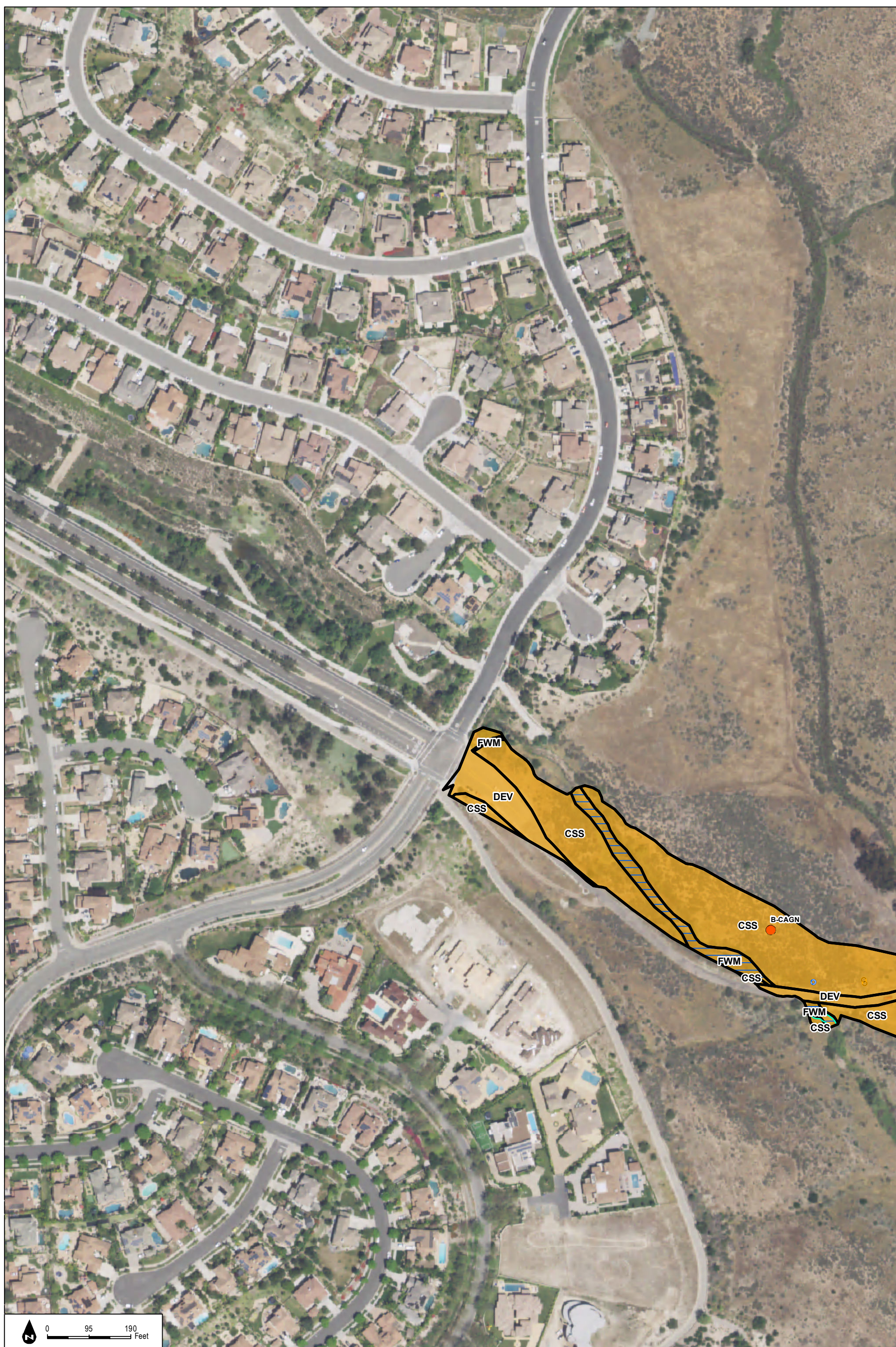


Figure 5-1ff
Impacts to Biological Resources

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

5.1.1.2 Permanent Direct Impacts

Impact V-2: Permanent Direct Impacts to Sensitive Vegetation Communities within the Village 14 Development Footprint

The Land Exchange Alternative would cause the direct loss of 601.7 acres of vegetation communities within Village 14 (Table 5-2, Impacts to Vegetation Communities and Land Cover Types within the Land Exchange Area). All such impacts would occur within the Village 14 Development Footprint as defined in Section 1.3. The remaining 400.9 acres on Village 14 would be preserved. Within Planning Areas 16/19, direct impacts include those associated with improvements to Proctor Valley Road North; the remainder of Planning Areas 16/19 would be dedicated open space. Impacts associated with Proctor Valley Road are all combined with off-site impacts. The optional trail (0.9 acres) would be located within an existing dirt road and would not result in any direct impacts; therefore, the trail is not included in the direct impacts analysis. Impacts to vegetation and jurisdictional resources are shown in Figures 5-1 through 5-1ff. These impacts are largely consistent with those assumed in the MSCP Subarea Plan with the exception of the proposed boundary adjustment. The Land Exchange Alternative applicant has requested an adjustment in the Preserve boundary to allow for Land Exchange Alternative development of the Land Exchange Alternative. The Biological Equivalency Analysis, attached hereto as Appendix A, shows that the proposed boundary adjustment results in a net benefit to the Preserve in terms of biological value exchanged.

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.

Table 5-2
Impacts to Vegetation Communities and Land Cover Types
within the Land Exchange Area (Acres)

Habitat Types/Vegetation Communities ^a		Land Exchange Alternative	Village 14 Development Footprint (Permanent Impacts)			Off-site Improvements	
			Village 14 ^b	Otay Ranch RMP Preserve	Total Impacts	Permanent Impacts ^b	Temporary Impacts
Riparian Habitat/ Jurisdictional Aquatic Resources	Alkali Seep	0.5	--	--	--	--	--
	Cismontane alkali marsh (including disturbed)	8.4	0.1	--	0.1	0.1	0.3
	Freshwater marsh	0.4	--	--	--	0.1	0.3
	Mulefat scrub	1.0	--	--	--	0.1	0.3

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

Table 5-2
Impacts to Vegetation Communities and Land Cover Types
within the Land Exchange Area (Acres)

Habitat Types/Vegetation Communities ^a		Land Exchange Alternative	Village 14 Development Footprint (Permanent Impacts)			Off-site Improvements	
			Village 14 ^b	Otay Ranch RMP Preserve	Total Impacts	Permanent Impacts ^b	Temporary Impacts
	Southern coast live oak riparian forest	0.7	--	--	--	--	--
	Open water	2.0	--	--	--	--	--
	Southern willow scrub	0.3	--	--	--	<0.1	<0.1
	Unvegetated channel	0.1	--	--	--	<0.1	0.1
<i>Riparian Habitat/Jurisdictional Aquatic Resources Total</i>		13.4	0.1	--	0.1	0.3	1.1
Sensitive Upland Communities	Coast live oak woodland	1.1	--	--	--	--	--
	Granitic chamise chaparral	585.5	424.1	--	424.1	1.3	2.3
	Granitic chamise chaparral (disturbed)	0.8	0.8	--	0.8	--	--
	Granitic southern mixed chaparral	110.8	--	--	--	1.7	1.5
	Diegan coastal sage scrub	1,296.8	74.1	2.4	76.5	6.2	9.4
	Diegan coastal sage scrub (disturbed)	108.7	38.7	--	38.7	4.6	6.0
	Diegan coastal sage scrub - Baccharis-dominated (including disturbed)	1.3	--	--	--	0.4	0.9
	Non-native grassland	222.4	37.3	0.6	38.0	4.5	9.4
<i>Sensitive Upland Communities Total</i>		2,327.5	575.0	3.0	578.0	18.7	29.5
Non-Sensitive Communities and Land Covers	Eucalyptus woodland	5.8	3.0	--	3.0	--	0.1
	Urban/developed	9.9	4.5	--	4.5	3.3	1.4
	Disturbed habitat	31.0	16.1	--	16.1	0.9	1.3
<i>Non-Sensitive Communities and Land Covers Total</i>		46.7	23.6	--	23.6	4.2	2.8
Total^d		2,387.7	598.7	3.0	601.7	23.2	33.4
Total Permanent Impacts		624.9 acres					
Total Temporary Impacts		33.4 acres					

^a Oberbauer et al. 2008.

^b Fuel modification is included within the permanent impacts.

^c Unvegetated stream channel is also an overlay within various vegetation communities and is therefore not fully represented in this table. See Section 5.4.

^d May not total due to rounding.

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

Impacts V-3 through V-7: Off-Site Permanent Direct Impacts to Sensitive Vegetation Communities

Permanent off-site impacts would result from improvements along Proctor Valley Road, which for discussion purposes is separated into Proctor Valley Road South, Proctor Valley Road Central and Proctor Valley North. Improvements in the off-site areas include wet and dry utilities, and a Community Pathway. Off-site facilities within Proctor Valley Road include those typically in the roadways, including wet and dry utilities, sewer pump station, drainage, landscape, culverts, and trails. These impacts would occur within the City of San Diego Cornerstone Lands, lands within the City of Chula Vista, private lands, Otay Ranch RMP Preserve, and County of San Diego road easements. Off-site impacts to granitic chamise chaparral (including disturbed), southern mixed chaparral, coastal sage scrub (including disturbed), coastal sage scrub – *Baccharis* dominated, non-native grassland, mulefat scrub, freshwater marsh, southern willow scrub, and unvegetated stream channel total approximately 49.6 acres (30.5 acres of temporary impacts and 19.1 acres of permanent impacts). Overall temporary impacts are summarized under Impact V-1. Table 5-1a summarizes the impacts to these off-site areas based on the vegetation community and the location of the off-site impact. The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1.

Impact V-3: City of San Diego MSCP Cornerstone Lands

Portions of Proctor Valley Road South and Central are located within the City of San Diego MSCP Cornerstone Lands and the City of San Diego Multiple Habitat Planning Area (MHPA). As shown in Table 5-1a, direct impacts to City of San Diego Cornerstone Lands as a result of the widening of Proctor Valley Road South total 33.8 acres, 19.2 acres of which are temporary and 14.6 acres of which are permanent. Of this total, 18.1 acres of temporary and 13.6 acres of permanent impacts would be to sensitive upland communities, 0.3 acres would be to wetland vegetation communities (0.2 temporary and 0.1 permanent), and 2.2 acres would be to non-sensitive communities (1.1 temporary and 1.1 permanent) (**Impact V-3**). The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1.

Impact V-4: Lands Within City of Chula Vista

As shown in Table 5-1a, direct impacts to lands in the City of Chula Vista as a result of the improvements to Proctor Valley Road (including infrastructure facilities) total 5.4 acres (2.8 acres temporary and 2.6 acres permanent). Of this total impact area, 4.0 acres is sensitive upland communities consisting of 2.0 acres of temporary impact and 2.0 acres of permanent impact, 0.4 acres is jurisdictional aquatic resources (0.3 acres is temporary impacts and 0.1 acres is

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

permanent impacts), and 0.9 acres is non-sensitive communities (**Impact V-4**). The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1.

Impact V-5: Off-Site Private Lands

As shown in Table 5-1a, direct impacts to off-site private lands as a result of road grading associated with Proctor Valley Road South, total 0.8 acres, consisting of 0.6 acres temporary impacts and 0.2 acres of permanent impacts. Of this, 0.4 acres of temporary impacts and 0.3 acres of permanent impacts would be to sensitive upland communities, and 0.3 acres would be to non-sensitive vegetation communities (0.2 acres temporary and <0.1 acres permanent) (**Impact V-5**). The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1.

Impact V-6: Off-Site Otay Ranch RMP Preserve

As shown in Table 5-1a, direct impacts to Otay Ranch RMP Preserve within Planning Areas 16/19 as a result of the improvements to Proctor Valley Road North total 16.2 acres (10.5 acres temporary and 5.7 acres permanent). Of this total impact area, 12.8 acres is sensitive upland communities consisting of 9.6 acres of temporary and 3.2 acres of permanent impacts, and 3.4 acres is non-sensitive vegetation communities (0.9 acres temporary and 2.5 acres permanent) (**Impact V-6**). The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1.

Impact V-7: Off-Site San Diego County Road Easements

As shown in Table 5-1a, direct impacts to County road easement as a result of the improvements to Proctor Valley Road North total 0.3 acres (0.2 acres temporary and 0.1 acres permanent). Of this total impact area, less than 0.1 acres is sensitive upland communities consisting of temporary and permanent impacts (**Impact V-7**). The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 7.1.

5.1.2 Indirect Impacts to Vegetation Communities

5.1.2.1 Temporary Indirect Impacts

Impact V-8: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Land Exchange Area (including off-site improvements)

Potential short-term or temporary indirect impacts to sensitive vegetation communities in the Land Exchange Area, at the development and Preserve interface, would primarily result from

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

construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact V-8**). These potential impacts are described in detail as follows.

Generation of Fugitive Dust. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Changes in Hydrology. Construction could result in hydrologic and water-quality-related impacts adjacent to and downstream of the construction area. Hydrologic alterations include changes in flow rates and patterns in streams, which may affect adjacent and downstream vegetation communities. Water-quality impacts include chemical-compound pollution (fuel, oil, lubricants, paints, release agents, and other construction materials), erosion, increased turbidity, and excessive sedimentation. Direct impacts, as described previously, can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into vegetation communities. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect special-status vegetation communities. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants.

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

5.1.2.2 Permanent Indirect Impacts

Impact V-9: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Land Exchange Area (including off-site improvements)

Long-term or permanent indirect impacts could result from the proximity of the Development Footprint to sensitive vegetation communities after construction (e.g., maintenance of roads, residential units, commercial space, school, parks, and trails) (**Impact V-9**). Permanent indirect impacts that could affect special-status vegetation communities include generation of fugitive dust, chemical pollutants, altered hydrology, non-native invasive species, increased

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

human activity, and alteration of the natural fire regime. These potential impacts are described in detail as follows.

Generation of Fugitive Dust. The effects of fugitive dust on special-status vegetation communities would be the same as the temporary indirect impacts described in Section 5.1.1.

Chemical Pollutants. The effects of chemical pollutants on special-status vegetation communities would be the same as the temporary indirect impacts described in Section 5.1.1. In addition, landscaping activities may use herbicides to prevent vegetation from reoccurring around roads, residential units, commercial space, school, and parks. However, weed control treatments shall include all legally permitted chemical, manual, and mechanical methods. Additionally, the herbicides used during landscaping activities would be contained within the Village 14 Development Footprint.

Altered Hydrology. For purposes of analyzing potential indirect impacts associated with hydrology, urban run-off associated with landscaping and irrigation are described here. Water would be used for landscaping purposes within residential units and maintained shared spaces (e.g., parks). These sources may alter the on-site hydrologic regime. These hydrologic alterations may affect special-status vegetation communities. Altered hydrology can allow for the establishment of non-native plants and/or invasion by Argentine ants (*Linepithema humile*), which can compete with native ant species that could be seed dispersers or plant pollinators. Potential impacts would be reduced by design features, including biofiltration basins that have been integrated into the Land Exchange Alternative design, along with additional low-impact development and source control features such as preservation of existing vegetation wherever possible, smart irrigation systems, and providing information and awareness of Integrated Pest Management to owners. To eliminate potential flooding impacts during peak storm events, the proposed storm drain system would consist of appropriate on-site inlet placement and storm drain sized to handle peak flow capacities. Similarly, off-site road improvements would include drainage improvements necessary for peak flow runoff conveyance.

Non-Native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including the fact that exotic plants compete for light, water, and nutrients, and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species, unique vegetation communities, and subsequently suitable habitat for special-status wildlife

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

species. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within special-status vegetation communities.

Increased Human Activity. Increased human activity could result in the potential for trampling of vegetation outside of the Village 14 Development Footprint and designated trails, as well as soil compaction, and could affect the viability of plant communities. Trampling can alter the ecosystem, creating gaps in vegetation and allowing exotic, non-native plant species to become established, leading to soil erosion. Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion. An increased human population increases the risk for damage to special-status vegetation communities.

Alteration of the Natural Fire Regime. The Land Exchange Alternative could potentially increase the risk of fire, including fire associated with electrical shorts or electrical equipment malfunction within developed neighborhoods or inadvertent/intentional ignitions within or adjacent to open space. Shorter-than-natural fire return intervals can preclude recovery of the native vegetation between fires, weaken the ecological system, allow for invasion of exotic species, and in some cases, result in permanent transition of the vegetation to non-native communities, such as annual grassland and weedy communities (Keeley 1987; Malanson and O’Leary 1982; O’Leary et al. 1992). If the natural fire regime is suppressed, longer-than-natural fire return intervals can result in excessive buildup of fuel loads so that when fires do occur, they are catastrophic. Unnaturally long fire intervals can also result in senescence of plant communities, such as chaparral, that rely on shorter intervals for rejuvenation.

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

5.2 Special-Status Plant Species

5.2.1 Direct Impacts to Special-Status Plant Species

5.2.1.1 *Temporary Direct Impacts*

Impact SP-1: Temporary Direct Impacts to Special-Status Plant Species

Short-term, construction-related, or temporary direct impacts to special-status plants at the edge of the Development Footprint and Preserve interface would primarily result from construction activities. Temporary impacts to special-status plants resulting from construction are quantified as a permanent impact. Clearing, trampling, or grading of special-status plants outside designated

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

construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could damage individual plants 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. Any special-status plant species at the edge of the Development Footprint/open space interface could be impacted by potential temporary direct impacts such as those previously listed.

The significance determination for these potential impacts is determined through application of the County Significance Guidelines as described in Section 6.1, Guidelines for the Determination of Significance.

5.2.1.2 *Permanent Direct Impacts*

Impact SP-2: Permanent Direct Impacts to Special-Status Plant Species and Critical Habitat

The Land Exchange Alternative was designed with an extensive open space system to reduce direct impacts to sensitive plant species; however, development within Village 14 and off-site improvement areas would result in the loss of sensitive plant species (Table 5-3, Summary of Direct Impacts to Special-Status Plant Species). Long-term or permanent direct impacts to special-status plant species were quantified by comparing the impact footprint with the occurrence data for each special-status plant species. Table 5-3 includes each species' County status, CRPR, estimates of the number of individuals within the Land Exchange Area, and an assessment of permanent direct impacts based on the number of individual plants located within the impact footprint. In addition, there are impacts to critical habitat for Otay tarplant and spreading navarretia. Permanent direct impacts to critical habitat for Otay tarplant total 7.2 acres within the Land Exchange Area and off-site improvement areas; impacts to critical habitat for spreading navarretia total 8.6 acres within the Village 14 Development and off-site improvement areas (Figure 5-2, Impacts to Critical Habitat). The significance determination for these potential impacts is determined through application of the County Significance Guidelines, as described in Section 6.1.

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

Table 5-3
Summary of Direct Impacts to Special-Status Plant Species

Species	Regulatory Status: Federal/State/County CRPR	Approximate Number of Individuals within the Land Exchange Area	Approximate Number of Individuals Impacted ^a		
			On-Site	Off-Site	Impact Total
County List A					
<i>Arctostaphylos otayensis</i> Otay manzanita	None/None/Covered/1B.2	627	—	—	—
<i>Bloomeria clevelandii</i> San Diego goldenstar	None/None/Covered/1B.1	4,967	2,228	—	2,228
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	None/None/Covered/1B.1	83	—	—	—
<i>Calochortus dunnii</i> Dunn's mariposa-lily	None/SR/Covered, Narrow Endemic/1B.2	459	—	—	—
<i>Clarkia delicata</i> delicate clarkia	None/None/Not Covered/1B.2	5	—	—	—
<i>Clinopodium chandleri</i> San Miguel savory	None/None/Covered/1B.2	1	—	—	—
<i>Deinandra conjugens</i> Otay tarplant	FT/SE/Covered/1B.1	25	—	25	25
<i>Dudleya variegata</i> Variegated dudleya	None/None/Covered, Narrow Endemic/1B.2	35	35	—	35
<i>Lepechinia ganderi</i> Gander's pitcher sage	None/None/Covered, Narrow Endemic/1B.3	168	—	—	—
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	None/None/Not Covered/4.3	174	174	—	174
<i>Navarretia fossalis</i> Spreading navarretia	FT/None/Covered/1.B	Critical Habitat	6.8 acres	1.8 acres	8.6 acres
County List B					
<i>Ferocactus viridescens</i> San Diego barrel cactus	None/None/Covered/2B.1	50	36	12	48
<i>Iva hayesiana</i> San Diego marsh-elder	None/None/Not Covered/2B.2	6,101	1,535	31	1,566
<i>Salvia munzii</i> Munz's sage	None/None/Not Covered/2B.2	18,217	11,303	—	11, 303
County List D					
<i>Artemisia palmeri</i> San Diego sagewort	None/None/Not Covered/4.2	16	—	—	—
<i>Dichondra occidentalis</i> Western dichondria	None/None/Not Covered/4.2	0.24 acre	0.23 acre ^c	—	0.23 acre
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None/None/Not Covered/4.2	40	40	—	40

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

**Table 5-3
Summary of Direct Impacts to Special-Status Plant Species**

Species	Regulatory Status: Federal/State/County CRPR	Approximate Number of Individuals within the Land Exchange Area	Approximate Number of Individuals Impacted ^a		
			On-Site	Off-Site	Impact Total
<i>Holocarpha virgata</i> ssp. <i>elongata</i> Graceful tarplant	None/None/Not Covered/4.2	20	5	—	5
<i>Juncus acutus</i> ssp. <i>leopoldii</i> Southwestern spiny rush	None/None/Not Covered/4.2	577	—	31	31
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> Golden-rayed pentachaeta	None/None/Not Covered/4.2	12,608	2,341	—	2,341
<i>Selaginella cinerascens</i> Ashy spike-moss	None/None/Not Covered/4.1	6.65 acres	1.61 acres ^c	<0.01	1.61 acres
<i>Stipa</i> [= <i>Achnatherum</i>] <i>diegoensis</i> San Diego County needle grass	None/None/Not Covered/4.2	175	—	—	—
<i>Viguiera laciniata</i> San Diego County viguiera	None/None/Not Covered/4.2	18,699	2,428	2	2,430

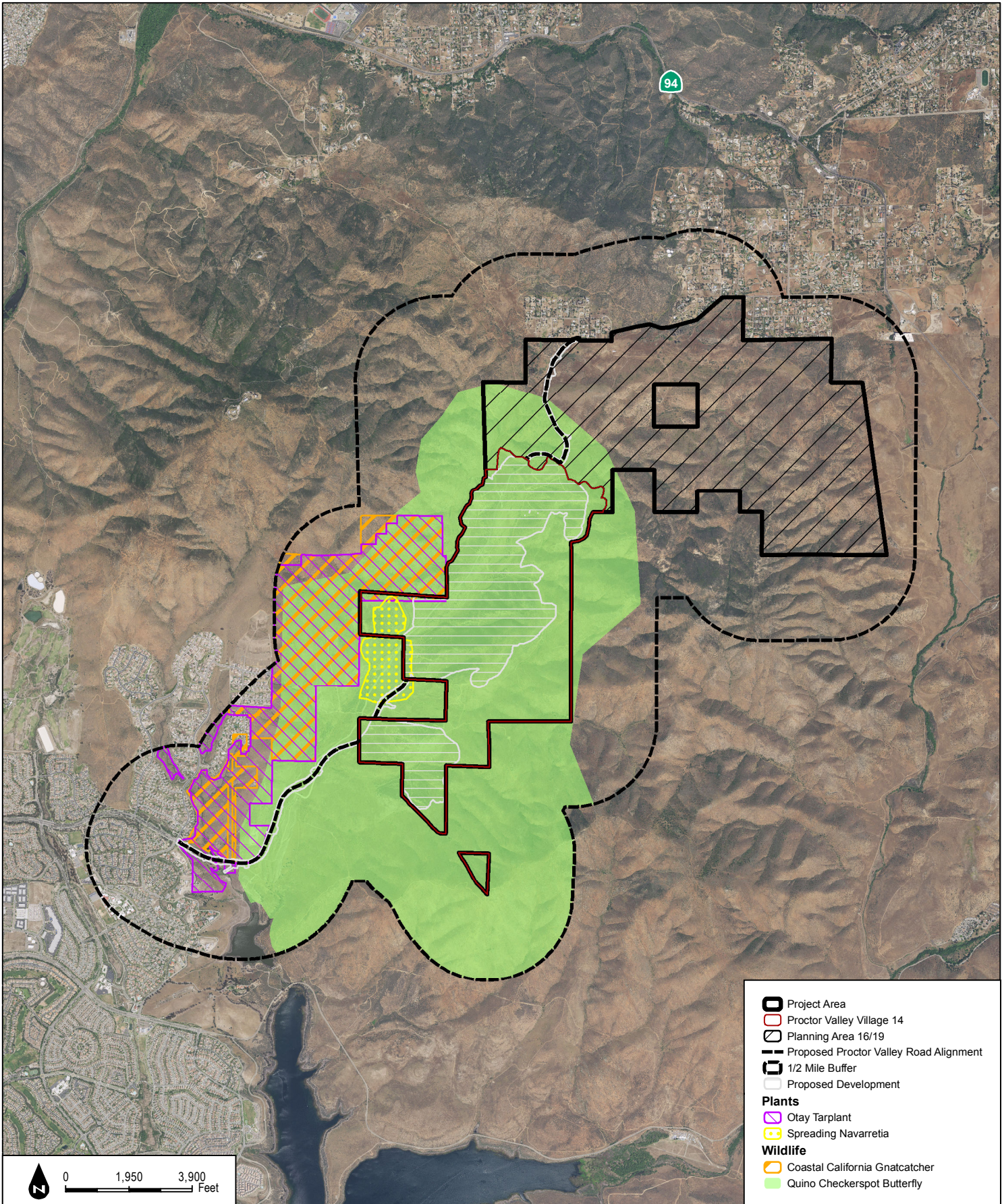
CRPR: California Rare Plant Rank; MSCP: Chula Vista Subarea Plan Multiple Species Conservation Plan; County List A and B and D; FT = federally threatened; SE = state endangered; SR = state rare.

^a Impacts to rare plants include impacts within the permanent and temporary footprints.

^b On-site impacts include impacts within Village 14 Development and Otay Ranch RMP Preserve

^c Impacts to western dichondria and ashy spike-moss are in acres occupied rather than number of individuals impacts due to the difficulty in counting distinct individuals for species with such growth habits.

As stated in Section 1.2, the County is contemplating widening Proctor Valley Road North from 40 feet to approximately 48 feet. This would result in additional impacts to San Diego marsh-elder (2 individuals), Southwestern spiny rush (4 individuals).



SOURCE: NAIP 2016; Hunsaker 2017; USFWS 2017

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

FIGURE 5-2
Impacts to Critical Habitat

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Village 14 and Planning Areas 16/19 Land Exchange Alternative**

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5.2.2 Indirect Impacts to Special-Status Plant Species

5.2.2.1 *Temporary Indirect Impacts*

Impact SP-3: Temporary Indirect Impacts to Special-Status Plant Species

Most of the indirect impacts to vegetation communities described in Section 5.1.2 can also affect sensitive plants. Potential short-term or temporary indirect impacts to special-status plant species in the Land Exchange Area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact SP-3**). Special-status plant species at the edge of the Preserve/development interface, could be impacted by potential temporary indirect impacts such as those previously listed (see descriptions in Section 5.1.2). The significance determination for these potential impacts is determined through application of the County Significance Guidelines as described in Section 6.1.

5.2.2.2 *Permanent Indirect Impacts*

Impact SP-4: Permanent Indirect Impacts to Special-Status Plant Species

Permanent indirect impacts could result from the proximity of the Development Footprint to special-status plants during construction. Permanent indirect impacts that could affect special-status plant species include generation of fugitive dust, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, and alteration of the natural fire regime (**Impact SP-4**). Each of these potential indirect impacts is discussed in Section 6.2.2.1, Special-Status Plant Species. Special-status plant species at the edge of the Preserve/development interface, could be impacted by permanent indirect impacts such as those previously listed. The significance determination for these potential impacts is determined through application of the County Significance Guidelines as described in Section 6.1.

5.3 Sensitive Wildlife Species

5.3.1 Direct Impacts to Special-Status Wildlife Species

5.3.1.1 *Temporary Direct Impacts*

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Short-term, construction-related, or temporary direct impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from construction activities

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

(Impact W-1). These impacts could occur along interface between development and non-impacted areas. Clearing, trampling, or grading of vegetation communities outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could reduce suitable habitat for wildlife species and alter their ecosystem, thus creating gaps in vegetation that allow exotic, non-native plant species to become established. All temporarily impacted areas would be restored upon Land Exchange Alternative completion. The significance determination for these potential impacts is described in Section 6.1.

5.3.1.2 Permanent Direct Impacts

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

The Land Exchange Alternative was designed around an extensive open space system. Development areas were “moved” specifically to preserve important wildlife corridors, species, and habitat, including vernal pools, San Diego fairy shrimp and coastal California gnatcatcher. Moreover, the applicant has attempted to limit the Land Exchange Alternative’s impacts to those contemplated in, and mitigated by, the Otay Ranch RMP and the MSCP County Subarea Plan. Following Land Exchange Alternative refinement, long-term or permanent direct impacts to special-status wildlife species were quantified by comparing the impact footprint with suitable habitat for wildlife species.

Long-term or permanent direct impacts to special-status wildlife species were quantified by comparing the impact footprint with suitable habitat for wildlife species. Implementation of the Land Exchange Alternative would result in the direct loss of habitat, including foraging habitat, for some of the County of San Diego Group 1, Group 2 and SSC species described in Sections 4.6.1 and 4.6.2 (**Impact W-2**). These species include the following: red diamond rattlesnake, western spadefoot, Cooper’s hawk, Southern California rufous-crowned sparrow, grasshopper sparrow, burrowing owl, red-shouldered hawk, turkey vulture, northern harrier, California horned lark, loggerhead shrike, coastal California gnatcatcher, western bluebird, common barn owl, monarch, San Diego black-tailed jackrabbit, mule deer, cougar, American badger, San Diegan tiger whiptail, rosy boa, long-eared owl, white-tailed kite, ferruginous hawk, pallid bat, western mastiff bat, western red bat, Yuma myotis, big free-tailed bat, orangethroat whiptail, San Diego banded gecko, Coronado skink, San Diego desert woodrat, and Blainville’s horned lizard. Locations of sensitive wildlife observed are shown in Figures 4-1 through 4-1ff and described in Sections 4.6.1 and 4.6.2. Additional species that have a moderate to occur but that were not directly observed are described in Appendix J-1. In general, the populations of most sensitive species observed or determined to have a moderate to high likelihood of occurring would be directly affected by this loss of habitat. Table 5-4, Permanent Impacts to Special-Status Wildlife Species Present within the Land Exchange Area or with High Potential to Occur, outlines

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

impacts to suitable habitat, including foraging habitat for raptors, for each of these species. The significance determination for these potential impacts is described in Section 6.1. Impacts to golden eagle, Quino checkerspot butterfly, and Hermes copper butterfly are described under separate impact numbers below.

Impacts to County-sensitive wildlife, including red-shouldered hawk, turkey vulture, and common barn owl would be less than significant due to the avoidance, small amount of impacts, or the lack of use of the site for nesting (i.e., turkey vulture).

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
<i>Amphibians and Reptiles</i>					
western spadefoot (<i>Spea hammondi</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	78 features with the potential to support this species; 20 pools were determined to be occupied.	8 occupied pools would be impacted by the proposed development	There are 78 features within the Land Exchange Area that could potentially support this species. Of those 78, 20 were occupied by spadefoot	Western spadefoot is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of spadefoot habitat to the MSCP through the preservation of 12 features that may support these species and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
Orange-throated whiptail (<i>Aspidoscelis hyperythra</i>)	USFWS: None CDFW: SSC MSCP: Covered County: Group 2	2,141.10	573.85	High potential to occur. There are 2,141.10 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, and southern mixed chaparral.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
San Diegan tiger whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	2,362.83	616.27	Observed in the east-central portion of the Land Exchange Area. There are 2,362.83 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, non-native grassland, and southern mixed chaparral.	San Diegan tiger whiptail is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of San Diegan tiger whiptail habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
San Diego banded gecko (<i>Coleonyx variegatus abbotti</i>)	USFWS: None CDFW: None MSCP: None County: Group 1	2,103.60	553.85	High potential to occur. There are 2,103.60 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19; however, since this species is associated with rocky areas this model likely overestimates their habitat. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, mulefat scrub, and southern mixed chaparral.	San Diego banded gecko is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of San Diego banded gecko habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
red diamond rattlesnake (<i>Crotalus ruber</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	2,332.54	599.24	This species was observed in the southwestern portion of the Land Exchange Area. Since this species has a potential to throughout the Land Exchange Alternative, specific locations were not mapped. There are 2,332.54 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	Red diamond rattle snake is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of Red diamond rattle snake habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
rosy boa (<i>Lichanura trivirgata</i>)	USFWS: None CDFW: None MSCP: None County: Group 2	2,326.04	596.27	Observed within the Otay Ranch Village 14 Preserve, east of the Development Footprint. There are 2,326.04 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise	Rosy boa is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of rosy boa habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				chaparral, disturbed coastal sage scrub, disturbed habitat, mulefat scrub, non-native grassland, and southern mixed chaparral.	than significant level.
Blainville's horned lizard (<i>Phrynosoma blainvillii</i>)	USFWS: None CDFW: SSC MSCP: Covered County: Group 2	2,332.54	599.24	Observed within the Otay Ranch Village 14 Development Footprint. There are 2,332.54 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to covered sensitive species to a less than significant level.
Coronado Island skink (<i>Plestiodon skiltonianus interparietalis</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	702.90	430.80	High potential to occur. There are 702.90 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, disturbed chamise chaparral, eucalyptus woodland, and southern mixed chaparral.	Coronado skink is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of Coronado skink habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.

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

Table 5-4
**Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur**

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
<i>Birds</i>					
Cooper's hawk (<i>Accipiter cooperii</i>) (nesting)	USFWS: None CDFW: WL MSCP: Covered County: Group 1	7.6 nesting; 2,340.83 foraging	3.0 nesting; 599.39 foraging	Observed within the Land Exchange Area. There are 6.5 acres of modeled nesting habitat, and 2,340.83 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting modeled habitat for this species includes eucalyptus woodland, coast live oak woodland and oak riparian forest. Foraging modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level.
Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	USFWS: None CDFW: WL MSCP: Covered County: Group 1	2,326.04	596.27	Observed within the Land Exchange Area. There are 2,326.04 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes chamise chaparral,	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, mulefat scrub, non-native grassland, and southern mixed chaparral.	
grasshopper sparrow (<i>Ammodramus savannarum</i>) (nesting)	USFWS: None CDFW: SSC MSCP: None County: Group 1	222.44	42.42	Observed within the Land Exchange Area. There are 222.44 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes non-native grassland.	Grasshopper sparrow is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of two grasshopper sparrow habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
golden eagle (<i>Aquila chrysaetos</i>) (nesting and wintering)	USFWS: BCC CDFW: FP,WL MSCP: Covered County: Group 1	2,326.41	596.64 foraging	Observed within the Land Exchange Area. There are 2,326.41 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Foraging modeled habitat for this species includes coastal sage scrub (including disturbed and Baccharis dominated), chamise chaparral (including disturbed), coast oak woodland, and non-native grassland. These	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan as per the Implementing Agreement would provide mitigation for direct impacts to Covered sensitive species to a less than significant level. The Land Exchange Alternative would not result in lethal take of golden eagle individuals or disturbance of any active golden eagle nest. In addition, the Land Exchange Alternative would not place

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
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Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				vegetation communities are based on the MSCP definition of foraging habitat and the crosswalk with the Land Exchange Alternative-specific data presented in Appendix C.	<p>human activity within 4,000 feet of an active golden eagle nest, per the conditions of the MSCP or within 3,000 feet of historical nests per the Otay Ranch Raptor Management Study (Ogden 1992c).</p> <p>Compliance with these plans mitigates for the Land Exchange Alternative's direct and indirect impacts to golden eagle, reducing impacts to a less than significant level.</p> <p>Therefore, the Land Exchange Alternative will not result in any significant impacts that have not already been mitigated by the MSCP and RMP.</p>
Bell's sage sparrow (<i>Artemisiospiza belli</i>)	USFWS: BCC CDFW: WL MSCP: None County: Group 1	2,217.95	553.28	High potential to occur. There are 2,217.95 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, mulefat scrub, non-native	Bell's sage sparrow is not a Covered Species under the MSCP. However, the applicant's contribution of Bell's sage sparrow habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				grassland, and southern mixed chaparral.	
long-eared owl (<i>Asio otus</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 1	2,332.54	599.24	Observed within the Land Exchange Area. There are 2,332.54 acres of foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Foraging modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	Long-eared owl is not a Covered Species under the MSCP. However, the applicant's contribution of long-eared owl habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
burrowing owl (<i>Athene cunicularia</i>) (burrow sites and some wintering sites)	USFWS: BCC CDFW: SSC MSCP: Covered County: Group 1	140.1 potential suitable habitat	37.2	Direct observations of these species did not occur during focused surveys. Incidental sighting of white wash, feathers, and pellets were observed at one specific location in the central portion of the Land Exchange Area during rare plant surveys.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level. In addition, preconstruction surveys would be conducted prior to Land Exchange Alternative construction to ensure that direct impacts to this species are avoided.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
red-shouldered hawk (<i>Buteo lineatus</i>)	USFWS: None CDFW: None MSCP: None County: Group 1	7.6 nesting; 2,340.83 foraging	3.0 nesting; 599.39 foraging	Observed within the Land Exchange Area. There are 6.5 acres of modeled nesting habitat and 2,340.83 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting modeled habitat for this species includes eucalyptus woodland, coast live oak woodland, and oak riparian forest. Foraging modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, oak riparian forest, non-native grassland, and southern mixed chaparral.	Impacts to red-shouldered hawk are considered less than significant due to the small amount of suitable nesting habitat proposed to be impacted.
ferruginous hawk (<i>Buteo regalis</i>) (wintering)	USFWS: BCC CDFW: WL MSCP: Covered County: Group 1	1,674.01	188.59	High potential to occur. There are 1,674.01 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Foraging modeled habitat for this species includes cismontane alkali marsh, coastal sage scrub, disturbed coastal sage scrub,	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less-than-significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				disturbed habitat, mulefat scrub, and non-native grassland.	
turkey vulture (<i>Cathartes aura</i>)	USFWS: None CDFW: None MSCP: None County: Group 1	2,261.01	614.75	Observed within the Land Exchange Area. There are 2,261.01 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Foraging modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	The Land Exchange Area does not support suitable cliffs and large trees for nesting, but there is suitable foraging habitat within the Land Exchange Area. The Land Exchange Area is not used for breeding by this species; therefore, impacts to habitat would not be considered significant.
northern harrier (<i>Circus cyaneus</i>) (nesting)	USFWS: None CDFW: None MSCP: None County: Group 1	8.3 nesting; 1,637.93 foraging	0.2 nesting, 168.59 foraging,	Observed foraging, moderate potential to nest within the Land Exchange Area. There are 8.3 acres of modeled nesting habitat and 1,637.93 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting modeled habitat for this species includes cismontane alkali marsh. Foraging modeled habitat for this	Northern harrier is not a Covered Species under the MSCP. However, the applicant's contribution of northern harrier habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				species includes cismontane alkali marsh, coastal sage scrub, disturbed coastal sage scrub, mulefat scrub, oak riparian forest and non-native grassland.	
white-tailed kite (<i>Elanus leucurus</i>)	USFWS: None CDFW: FP MSCP: None County: Group 1	238.21	45.61	Observed within the Land Exchange Area. There are 238.21 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Foraging modeled habitat for this species includes cismontane alkali marsh, eucalyptus woodland, mulefat scrub, oak riparian forest, and non-native grassland.	Land Exchange Alternative does not support habitat for nesting, but there is a minimal amount of suitable foraging habitat within the Land Exchange Area. A portion of the foraging area would be preserved. In addition, there is likely more suitable foraging habitat outside of the Land Exchange Area and in closer proximity to suitable nesting habitat. Thus, direct impacts to this species would be reduced to a less than significant level.
California horned lark (<i>Eremophila alpestris actia</i>)	USFWS: None CDFW: WL MSCP: None County: Group 2	1,668.23	185.62	Observed within the Land Exchange Area. There are 1,668.23 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes cismontane alkali marsh, coastal sage scrub, disturbed coastal sage scrub, disturbed habitat, mulefat scrub, and non-native	California horned lark is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of California horned lark habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
loggerhead shrike (<i>Lanius ludovicianus</i>) (nesting)	USFWS: BCC CDFW: SSC MSCP: None County: Group 1	1,666.50	189.22	grassland. Observed within the Land Exchange Area. There are 1,666.50 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, and non-native grassland.	Loggerhead shrike is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of loggerhead shrike habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
coastal California gnatcatcher (<i>Poliophtila californica californica</i>)	USFWS: FT CDFW: SSC MSCP: Covered County: Group 1	1,992.78	552.18	Observed within the Land Exchange Area. There are 1,992.78 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, mulefat scrub, and southern mixed chaparral.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less-than-significant level. The RMP requires preservation of sufficient habitat to maintain at least 80% of existing pairs/individuals of this species. The Land Exchange Alternative provides for the preservation of habitat surrounding the six pairs and one of the males for a total preservation of 13 occurrences of this species.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
western bluebird (<i>Sialia mexicana</i>)	USFWS: None CDFW: None MSCP: Covered County: Group 2	1,666.43	188.44	Observed within the Land Exchange Area. There are 1,666.43 acres of modeled foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes coastal sage scrub, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, and non-native grassland.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to special-status species to a less than significant level.
common barn-owl (<i>Tyto alba</i>)	USFWS: None CDFW: None MSCP: None County: Group 2	1,668.23	185.62	Observed within the Land Exchange Area. There are 1,668.23 acres of modeled nesting/foraging habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Nesting and foraging modeled habitat for this species includes cismontane alkali marsh, coastal sage scrub, disturbed coastal sage scrub, disturbed habitat, mulefat scrub, and non-native grassland.	Common barn owl is not a Covered Species under the MSCP. However, the applicant's contribution of common barn owl habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
<i>Mammals</i>					
pallid bat (<i>Antrozous pallidus</i>)	USFWS: None CDFW: SSC	2,252.72	614.60	High potential to occur. There are 2,252.72 acres of modeled habitat	Pallid bat is not a Covered Species under the MSCP. However, the Land

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
	MSCP: None County: Group 2			within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, developed, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, open water, non-native grassland, and southern mixed chaparral.	Exchange Alternative applicant's contribution of pallid bat habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
western mastiff bat (<i>Eumops perotis californicus</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	2,252.72	614.60	High potential to occur. There are 2,252.72 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, open water, non-native grassland, and southern mixed chaparral.	Western mastiff bat is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of western mastiff bat habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
western red bat (<i>Lasiurus blossevillei</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	6.5	3.0	High potential to occur. There are 6.5 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes eucalyptus woodland, and oak riparian forest.	Western red bat is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of western red bat habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	2,215.22	594.60	Observed within the Land Exchange Area. There are 2,215.22 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, mulefat scrub, non-native grassland, and southern mixed chaparral.	San Diego black-tailed jackrabbit is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of San Diego black-tailed jack rabbit habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
Yuma myotis (<i>Myotis yumanensis</i>)	USFWS: None CDFW: None MSCP: None County: Group 2	2,261.01	614.75	High potential to occur. There are 2,261.01 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19.	Yuma myotis is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of Yuma myotis habitat to the MSCP and Otay Ranch RMP

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				Modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	2,246.22	611.63	High potential to occur. There are 2,246.22 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, mulefat scrub, non-native grassland, and southern mixed chaparral.	San Diego desert woodrat is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of San Diego desert woodrat habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
big free-tailed bat (<i>Nyctinomops macrotis</i>)	USFWS: None CDFW: SSC MSCP: None County: Group 2	2,252.72	614.60	High potential to occur on site. There are 2,252.72 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, coastal	Big free-tailed bat is not a Covered Species under the MSCP. However, the Land Exchange Alternative applicant's contribution of big free-tailed bat habitat to the MSCP and Otay Ranch RMP Preserve would mitigate impacts by providing suitable habitat in a

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	configuration that preserves genetic exchange and species viability. Thus, direct impacts to this species would be reduced to a less than significant level.
mule deer (<i>Odocoileus hemionus</i>)	USFWS: None CDFW: None MSCP: Covered County: Group 2	2,270.94	622.57	Observed within the Land Exchange Area. There are 2,270.94 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, developed, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level.
Cougar (<i>Puma concolor</i>)	USFWS: None CDFW: None MSCP: Covered County: Group 2	2,363.54	616.27	Observed within the Land Exchange Area (indirect observation of scat). There are 2,363.54 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes chamise chaparral,	Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	
American badger (<i>Taxidea taxus</i>)	USFWS: None CDFW: SSC MSCP: Covered County: Group 2	1,660.71	186.25	Observed within the Land Exchange Area by sign only. There are 1,660.71 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Modeled habitat for this species includes coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, mulefat scrub, and non-native grassland.	Conservation provided through the Otay Ranch RMP and MSCP Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level.
<i>Invertebrates</i>					
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	USFWS: FE CDFW: None MSCP: Not Covered County: Group 1	49 features were identified as potential to support vernal pool branchiopods for purposes of focused surveys; all but 9 were considered	none	No San Diego fairy shrimp have been observed within the Village 14 Development Footprint. San Diego fairy shrimp have been confirmed in 9 features outside of the Development Footprint. These features will not be affected by the Land Exchange Alternative, since they are located within Otay Ranch RMP Preserve, or state-owned lands.	No Impact to known occupied features. No San Diego fairy shrimp were identified in the Development Footprint. Impacts to vernal pools/features inhabited by San Diego fairy shrimp have been avoided by realigning Proctor Valley Road and preserving occupied features; therefore, there are no impacts to this species. Nevertheless, the County is requiring a preventative

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
		unoccupied by listed fairy shrimp or vernal pool indicator plants. Also, all are road ruts and are not considered vernal pools. 9 features (A12, A22, A23, A27, B2, C14, C21, D4 and D9) support San Diego fairy shrimp.			mitigation measures for this species which includes compliance with any conditions required by the USFWS for take of San Diego fairy shrimp (M-BI-6).
monarch (<i>Danaus plexippus</i>)	USFWS: None CDFW: None MSCP: None County: Group 2	6.5	3.0	Observed within the Land Exchange Area. There are 6.5 acres of modeled habitat within Village 14, off-site improvement areas, and Jackson Pendo owned land in Planning Areas 16/19. Monarch butterfly wintering sites are considered special status by CDFW (2015). 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. Modeled habitat for this species includes	Suitable habitat includes eucalyptus woodlands and habitat supporting larval host plants (i.e., non-native grasslands), but no winter roosts have been detected within the Land Exchange Area. Therefore, impacts to suitable habitat for this species would be considered less than significant.

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

Table 5-4
Permanent Impacts to Special-Status Wildlife Species Present
within the Land Exchange Area or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/ State/ MSCP County Group	Land Exchange Alternative (acres)	Development Footprint (acres)	Basis for Impact Evaluation	Significance Determination
				eucalyptus woodland and oak riparian forest.	
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	USFWS: FE CDFW: None MSCP: None County: Group 1	1,120.9 acres of potential habitat	610.8 acres of potential suitable habitat	High potential to occur. Based on the 2016 surveys conducted for the Land Exchange Area, there are 610.8 acres of potential habitat that could support this species within the Development Footprint (Appendix D).	The Land Exchange Alternative will affect potential Quino checkerspot butterfly habitat. This impact is considered significant absent mitigation (Impact W-4).
Hermes copper (<i>Lycaena hermes</i>)	USFWS: FC CDFW: None MSCP: None County: Group 1	41.2 acres of suitable habitat	15 acres	Moderate potential to occur. There are approximately 41.2 acres mapped as suitable Hermes copper habitat. Results of the focused surveys were negative, but this species has been recorded in the Jamul Mountains quadrangle (CDFW 2016).	The Land Exchange Alternative will affect suitable Hermes copper butterfly habitat. These impacts would be considered significant absent mitigation (Impact W-6).

^a Acreages are post land exchange and boundary line adjustment.

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

Impact W-3: Long-Term Direct Impacts to Golden Eagle

MSCP Defined Golden Eagle Suitable Habitat – Land Exchange Alternative

As discussed above, after the MSCP Plan and MSCP County Subarea Plan were adopted, the County and the Wildlife Agencies entered into an Implementing Agreement. The Implementing Agreement describes the “hardline” Preserve boundary for Otay Ranch as the 11,375-acre RMP Preserve, which includes Village 14 and Planning Areas 16/19. This hardline boundary identifies the amount and location of land that the applicant must convey to the Otay Ranch/MSCP Preserve in order to secure the “take” authorization and mitigation benefits of the MSCP Plan itself (which incorporates the Otay Ranch RMP). This same boundary identifies the approved limits of development. Thus, so long as future development of Village 14 and Planning Areas 16/19 conforms to the hardline boundary and convey the requisite amount of land to the Preserve, that development is (i) entitled to “take” authorization under the Section 10 permit issued by USFWS for the 84 species covered under MSCP, including golden eagle, and (ii) deemed to have mitigated to a less than significant level all impacts to the 84 species covered under the plan – again, including golden eagle.

For purposes of context, it is important to note that the County and the City of Chula Vista approved the Otay Ranch planned community on October 28, 1993, as part of an interjurisdictional task force and public outreach, planning, and environmental review process. When the County adopted the Otay Ranch General Development Plan/Subregional Plan (GDP/SRP), it approved development and the RMP Preserve areas. These development and Preserve areas were mirrored in the Otay Ranch RMP, which was approved concurrent with the GDP/SRP. The RMP created the “hardline” Preserve boundary of 11,375 acres as depicted in Exhibit 24 of the RMP. Correspondingly, the RMP and Exhibit 24 created a hardline development boundary that included the entire Development Footprint of Village 14 and Planning Areas 16/19. This development boundary, which includes the Land Exchange Alternative Village 14 Development Footprint, was then incorporated into the MSCP Plan and the MSCP County Subarea Plan. For example, the Implementing Agreement for the MSCP Subarea County Subarea Plan specifically cites the 11,375-acre Otay Ranch Preserve as being part of the required mitigation for the South County segment. Thus, these assumptions were built into the “hardline” that marked the boundary between approved development and the Preserve. The Land Exchange Alternative is consistent with the assumptions set forth in both the RMP and the MSCP regarding the size of the Otay Ranch Preserve – i.e., 11,375 acres. In fact, the Land Exchange Alternative would result in additional acreage being added to the Preserve beyond what was originally designated. Within the portions of Otay Ranch owned by the applicant, the RMP designated 270.2 acres of Otay Ranch RMP Preserve in Village 14 and 156.5 acres in Planning Areas 16/19, for a total of 426.7 acres. The Land Exchange Alternative would result in

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

the conveyance of 403.9 acres of Preserve within Village 14 with all of Planning Areas 16/19 (559.9 acres) either being designated state Preserve or Otay Ranch RMP Preserve.

For purposes of assessing the Land Exchange Alternative's impacts on golden eagle, the remaining issues center around the Land Exchange Alternative's compliance with the species-specific impact limitations set forth in Table 3-5 of the MSCP and incorporated into the County's USFWS-issued Section 10 take permit.

Table 3-5 of the MSCP discusses anticipated impacts of the entire MSCP Plan – including impacts associated with development of Village 14 and Planning Areas 16/19. As to the golden eagle, the Land Exchange Area is located in what Table 3-5 refers to as the “Rancho San Diego” nesting territory (more often referred to as the “San Miguel Mountain” nesting territory). Table 3-5 makes the following statement regarding the MSCP Plan's impacts on the Rancho San Diego nesting territory: “Development under the plan will result in <10% loss of habitat in the nesting habitat; nesting territory *should remain viable*” (MSCP, Table 3-5, p. 3-76). Because the Land Exchange Alternative has no impacts to foraging impact beyond those assumed in Table 3-5, it is consistent with Table 3-5. In addition, a number of projects that the MSCP anticipated would be constructed in the Rancho San Diego/San Miguel Mountain golden eagle nesting territory have not been built and instead have been placed into the Preserve (e.g., Hidden Valley Estates), thereby reducing the amount of habitat loss assumed in Table 3-5.

The County's Section 10 permit, which incorporates by reference Table 3-5, imposes three additional conditions on future developments that are otherwise consistent with the MSCP: (1) the development may not result in lethal take of any golden eagle individuals; (2) the development may not cause direct human disturbance of any active golden eagle nest; and (3) the development must maintain a 4,000-foot buffer between project-related human disturbances and any active golden eagle nest.

As described, the Land Exchange Alternative (1) will not reduce the size of the previously approved hardline Preserve, (2) will not result in the lethal take of golden eagles, (3) will not disturb an active golden eagle nest, and (4) will not place human disturbance within 4,000 feet of an active golden eagle nest. Thus, there is sufficient evidence to conclude that the Land Exchange Alternative can be implemented in a manner consistent with the impact findings set forth in Table 3-5, including those for golden eagle. The details of this analysis are provided below.

Consistency with MSCP and Subarea Plan Development Assumptions

Under the terms of the MSCP and Otay Ranch RMP, compliance/consistency with the MSCP operates to mitigate to less than significant levels the Land Exchange Alternative's impacts on

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

“covered” species, including the golden eagle. Nevertheless, CEQA requires that the County, as lead agency, assess and disclose those impacts. To this end, Dudek modeled the foraging golden eagle habitat that exists within the Land Exchange Area, based on the habitat types identified in Table 3-5 of the MSCP Plan as being suitable for the species. These habitat types include coastal sage scrub, chaparral, grassland, and oak woodland. Although the MSCP identifies these vegetation communities as suitable for nesting and foraging, golden eagle nesting habitat is actually restricted to large trees and cliffs adjacent to those vegetation communities. Because the Land Exchange Area does not contain large trees or cliffs, this analysis focuses on suitable foraging habitat only. Based on Table 3-5 of the MSCP, the following vegetation communities mapped within the Land Exchange Area would be considered suitable foraging habitat according to the MSCP: granitic chamise chaparral (including disturbed), granitic southern mixed chaparral, coastal sage scrub (including *Baccharis* dominated and disturbed), non-native grassland and coast live oak woodland (Table 5-5, MSCP Defined Golden Eagle Suitable Foraging Habitat within the Land Exchange Area).

Table 5-5
MSCP Defined Golden Eagle Suitable Foraging Habitat within the Land Exchange Area

Habitat Types/Vegetation Communities	Village 14 ¹		Planning Areas 16/19 Preserve ²			Off-Site Improvement Areas (Perm Impacts Only)
	Development Footprint	Preserve	Jackson Pendo ³	Additional Preserve provided by the Boundary Adjustment	Additional Preserve provided by the Land Exchange	
Granitic chamise chaparral	424.1	91.3	0	0.1	0	1.3
Granitic chamise chaparral (disturbed)	0.8	0	0	0	0	0
Granitic southern mixed chaparral	0	0	56.1	26.2	12.7	1.7
Diegan coastal sage scrub	76.5	262.1	30.7	127.8	213.7	6.2
Diegan coastal sage scrub (disturbed)	38.7	38.5	0.3	0.9	9.7	4.6
Diegan coastal sage scrub – <i>Baccharis</i> dominated (including disturbed)	0	0	0	0		0.4
Coast live oak woodland	0	0	0	0	34.1	0
Non-native grassland	38.0	2.6	20.0	6.6	0.0	4.5
<i>Subtotal</i>	<i>578.0</i>	<i>394.5</i>	<i>107.1</i>	<i>161.6</i>	<i>269.7</i>	<i>18.7</i>
Total Development	596.7 acres					
Total Preserve	932.9 acres					

Notes: Totals may not add up due to rounding.

¹ Includes acreages within Village 14 post land exchange and boundary adjustment.

² Acreages for Planning Areas 16/19 do not include state-owned parcels that are a part of the Land Exchange Alternative. These areas are already preserved and the Land Exchange Alternative would not result in a change to this designation.

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

³ Additional Preserve not included in the boundary adjustment or land exchange.

As shown in Table 5-5, there are 1,529.6 acres of golden eagle foraging habitat in the Land Exchange Area exclusive of the state-owned parcels in Planning Areas 16/19¹² of which 932.9 acres would be preserved and 596.7 acres (which includes 18.7 acres of off-site improvements) would be impacted by the Land Exchange Alternative (**Impact W-3**). Pursuant to the MSCP Plan foraging habitat definition, the Land Exchange Alternative would place 923.9 acres of suitable golden eagle foraging habitat into CDFW or Otay Ranch RMP Preserve. This represents approximately 60% of the golden eagle MSCP Plan defined foraging habitat in the Land Exchange Area.

It is important to note that the MSCP assumed that the Otay Ranch GDP/SRP Development Footprint would, in fact, be developed and, likewise, that the GDP/SRP Preserve would, in fact, be preserved. Prior to the land exchange and boundary adjustment, the Land Exchange Alternative, as contemplated in the Otay Ranch GDP/SRP, could have resulted in impacts to 846.9 acres of golden eagle foraging habitat while preserving 411.6 acres (Table 5-6, MSCP Defined Golden Eagle Suitable Foraging Habitat within the Land Exchange Area by Applicant Ownership Before the Proposed Land Exchange). The Land Exchange Alternative, as described in this report, would ensure the preservation of 932.9 acres of golden eagle foraging habitat within the MSCP Preserve and, when compared to the Otay Ranch GDP/SRP Development Footprint, would reduce impacts to foraging habitat by 250.2 acres. This results in a net increase of 521.3 acres of golden eagle foraging habitat within the Otay Ranch RMP/MSCP Preserve.

Table 5-6
MSCP Defined Golden Eagle Suitable Foraging Habitat within the Land Exchange Area
by Applicant Ownership Before the Proposed Land Exchange and Boundary Adjustment
(acres)

Vegetation Community/Land Cover Type	Pre Exchange: Total Jackson Pendo Ownership by Land Use		
	<i>Developed (Village14 and Planning Areas 16/19)</i>	<i>LDA (Planning Area 16)</i>	<i>Preserve (Village14 and Planning Areas 16/19)</i>
Coastal sage scrub	360.5	96.4	231.0
Coastal sage scrub – disturbed	45.2	0.0	38.2
Chaparral ^a	248.2	30.5	111.2
Non-native grassland	66.1	0.0	31.2
Total	720.0	126.9	411.6

¹² The State-owned parcels are not included in this analysis because they are already considered preserved, and the Land Exchange Alternative would not modify that designation. The analysis only focuses on the areas within Village 14 and Planning Areas 16/19 that deviate from current land uses.

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

Table 5-6

**MSCP Defined Golden Eagle Suitable Foraging Habitat within the Land Exchange Area
by Applicant Ownership Before the Proposed Land Exchange and Boundary Adjustment
(acres)**

Vegetation Community/Land Cover Type	Pre Exchange: Total Jackson Pendo Ownership by Land Use		
	<i>Developed (Village14 and Planning Areas 16/19)</i>	<i>LDA (Planning Area 16)</i>	<i>Preserve (Village14 and Planning Areas 16/19)</i>
Total Potential Development	846.9		
Total Potential Preserve	411.6		

Notes: Totals may not add up due to rounding.

^a May include the following three types of chaparral vegetation communities: chamise chaparral, disturbed chamise chaparral, and southern mixed chaparral.

Consistency with MSCP and Section 10 Permit Conditions re: Disturbance of Golden Eagles

As indicated above, the MSCP and Section 10 permit include conditions that protect individual eagles and eagle nests. Specifically, both documents prohibit lethal take of eagles, direct human disturbance of active eagle nests, and placement of human disturbances within 4,000 feet of any active eagle nest. The applicant retained H.T. Harvey & Associates to survey the Land Exchange Area to determine distances between the Land Exchange Alternative’s anticipated “human disturbances” and the nearest active golden eagle nest. H.T. Harvey & Associates confirmed that the nearest nesting location—Rancho San Diego/San Miguel Mountain—was destroyed by the Harris fire in 2007 and has not been reestablished. H.T. Harvey & Associates also confirmed that the nesting platforms that the USFWS and BLM installed near Jamul as substitute nesting locations have not attracted an actual nesting pair of golden eagles (2015, 2017). In the absence of any active nesting activity at these two locations, the Land Exchange Alternative’s “human disturbance” would be more than 5 miles from the next nearest active golden eagle nest, which is located well to the south of the Land Exchange Area (Appendix C).

In light of these findings, Dudek, in consultation with H.T. Harvey & Associates (Appendix C), determined that the Land Exchange Alternative (i) will not cause lethal take of golden eagles; (ii) will not result in the human disturbance of any active golden eagle nest; and (iii) will not place human disturbance within 4,000 feet of any active golden eagle nest. Based on these facts, the Land Exchange Alternative is consistent with all conditions of the Otay Ranch RMP, the County of San Diego Subarea Plan, and the Section 10 take permit.

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

Impact W-4: Long-Term Direct Impacts to Quino Checkerspot Butterfly Suitable Habitat

After the Otay Ranch RMP and the MSCP County Subarea Plan were adopted and implemented, the Quino checkerspot butterfly was listed as a federally endangered species under FESA. The Quino checkerspot butterfly is not presently addressed under the Otay Ranch RMP or the MSCP Subarea Plan, and no coverage for take authorization of Quino checkerspot butterflies or their habitat is provided through the MSCP. No Quino checkerspot butterflies were observed within the Land Exchange Area during 2015 or 2016 habitat assessments and focused surveys; however, this species was observed at two locations within the Development Footprint in 2001 and 2005-2007 and within the Land Exchange Area in 2017 (see Section 4.61). Based on available information (CDFW 2016c; USFWS 2016), no Quino checkerspot butterflies have been observed within the Land Exchange Area since 2007; focused surveys were not conducted between 2007 and 2014.

The 2016 survey and results are considered valid because (i) the surveys were conducted in accordance with the 2016 USFWS Survey Protocol, (ii) Quino checkerspot butterfly were documented in the immediate vicinity¹³ during the same time when surveys for the Land Exchange Alternative were conducted, and (iii) host plant and site conditions were adequate for detecting Quino checkerspot butterfly. Based on the information gathered from the 2014, 2015, and 2016 surveys, the Land Exchange Alternative, including the Development Footprint and areas of Preserve, contains no occupied Quino checkerspot butterfly habitat. Consequently, absent future occupation of the site by Quino checkerspot butterfly, implementation of the Land Exchange Alternative would not impact Quino checkerspot butterfly individuals or occupied Quino checkerspot butterfly habitat. However, the Village 14 Development Footprint contains 600.6 acres of habitat that could potentially support Quino checkerspot butterfly. Therefore, the Land Exchange Alternative would result in impacts to 600.6 acres of potential habitat that could support future Quino checkerspot butterfly populations (Appendix D) (**Impact W-4**).

Impact W-5: Permanent Direct Impacts Resulting in Take of Birds under the MBTA

The MBTA prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, “take” is defined as pursuing, hunting, shooting, capturing, collecting, killing, or attempting to commit any of these acts (16 U.S.C. 703 et seq.). Note that impacts to habitat do not constitute take under this definition unless such impacts result in death of a migratory bird. Additionally, Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory

¹³ Quino checkerspot butterfly was observed in 2016 approximately 1 mile southeast of the southernmost portion of Village 14 Development Footprint (Dudek 2016).

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

Birds,” requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The executive order requires federal agencies to work with the USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

If any active nests or the young of nesting special-status bird species are impacted through direct grading, these impacts would be considered significant, absent mitigation, based on the MBTA (**Impact W-5**).

Impact W-6: Permanent Direct Impacts to Hermes Copper Butterfly Suitable Habitat

Based on the information gathered from the 2015 and 2017 habitat assessments and surveys, the Land Exchange Area does not contain occupied Hermes copper butterfly habitat. Consequently, absent future occupation of the Land Exchange Area by Hermes copper butterfly, implementation of the Land Exchange Alternative would not impact Hermes copper butterfly individuals or occupied Hermes copper butterfly habitat. However, the Village 14 Development Footprint within the Land Exchange Area contains 15 acres of habitat that could support Hermes copper butterfly. Although no Hermes copper butterfly were observed in the Land Exchange Area, there is the possibility that Hermes copper butterfly could use or occupy the site at some time in the future. Therefore, the Land Exchange Alternative would result in impacts to 15 acres of habitat that could support future Hermes copper butterfly populations (**Impact W-6**).

5.3.2 Indirect Impacts to Special-Status Wildlife Species

5.3.2.1 Temporary Indirect Impacts

Impact W-7: Temporary Indirect Impacts to Special-Status Wildlife Species

Short-term, construction-related, or temporary indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from construction activities (**Impact W-7**). Species potentially affected by such activities include coastal California gnatcatcher and nesting raptors that have the potential to use the eucalyptus trees along Proctor Valley North. Indirect impacts to sensitive bird species may occur if construction is conducted during the breeding/nesting season for coastal California gnatcatcher (February 15 through August 15) and raptors (January 15 through July 31). These potential impacts are described in detail as follows.

Generation of Fugitive Dust. Dust and applications for fugitive dust control can impact vegetation surrounding the limits of grading, resulting in changes in the community structure and function. These changes could result in impacts to suitable habitat for special-status wildlife species.

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

Noise. Noise impacts can have a variety of indirect impacts on wildlife species, including increased stress, weakened immune systems, altered foraging behavior, displacement due to startle, degraded communication with conspecifics (e.g., masking), damaged hearing from extremely loud noises, and increased vulnerability to predators (Lovich and Ennen 2011; Brattstrom and Bondello 1983, as cited in Lovich and Ennen 2011). Both development- and construction-related noise generators could have an indirect impact on wildlife species.

Construction-related noise and vibration could occur from equipment used during site preparation and grading, including vegetation clearing, and construction of the Land Exchange Alternative. Construction noise and vibration levels would vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Construction may also involve blasting to break up bedrock close to the ground surface. Typically, most of the noise generated by blasting is very low in frequency—below the frequency range audible to humans. As detailed in the Acoustical Analysis Report for the Land Exchange Alternative, construction blasting generates a maximum noise level of approximately 94 A-weighted decibels (dBA) at a distance of 50 feet (FHWA 2006 as cited in Dudek 2015). Construction will occur during the day and no construction is proposed to take place at night.

Chemical Pollutants. Accidental spills of hazardous chemicals could contaminate nearby surface waters and groundwater and indirectly impact wildlife species through poisoning or altering suitable habitat.

Increased Human Activity. Construction activities can deter wildlife from using habitat areas near the Development Footprint and increase the potential for vehicle collisions.

Invasive Predators and Non-native Animal Species. Trash from construction-related activities could attract invasive predators such as ravens and coyotes that could impact the wildlife species in the Land Exchange Area. Landscaping stock could bring in Argentine ants or other pests that could compete with native wildlife. The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 6.1.

5.3.2.2 Permanent Indirect Impacts

Impact W-8: Permanent Indirect Impacts to Special-Status Wildlife Species

Potential long-term or permanent indirect impacts to special-status wildlife species include generation of fugitive dust; off-road vehicle use; non-native, invasive plant and animal species; habitat fragmentation; increased human activity; alteration of the natural fire regime; and altered hydrology (**Impact W-8**). All special-status wildlife species at the Preserve/development

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

interface could potential be impacted by temporary indirect impacts. These potential impacts are described in detail as follows.

Generation of Fugitive Dust. The effects of fugitive dust on special-status wildlife are described in Section 5.3.2.1.

Non-native, Invasive Plant and Animal Species. The effects of non-native, invasive plant and animal species on special-status wildlife is similar to what is described in Section 5.3.2.1. In addition, trash can attract invasive predators such as ravens and coyotes, which could impact the wildlife species in the Land Exchange Area.

Increased Human Activity. The effects of increased human activity on special-status wildlife is similar to what is described in Section 5.3.2.1. An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the Development Footprint and Preserve interface. Increasing the human presence adjacent to development could also increase the amount of domestic pets within the Otay Ranch RMP Preserve. All dogs within the open space would be required to be on leash while homeowners would be informed of the impacts that domestic pets can have on native habitat and wildlife.

Alteration of the Natural Fire Regime. The effects of altered natural fire regime on special-status wildlife is similar to what is described in Section 5.3.2.1. Alterations of plant communities could affect wildlife that relies on those habitat types.

Altered Hydrology. The effects of altered hydrology on special-status wildlife is similar to what is described in Section 5.3.2.1. Alterations of plant communities could affect wildlife that relies on those habitat types. Changes in plant composition could affect the native vegetation communities and wildlife habitat.

Lighting. Urban development, recreational facilities, and general human activity (e.g., night-time light from vehicles, home security systems) would result in light pollution and possibly disrupt dark skies. Long-term lighting may deter nocturnal wildlife from traversing through developed areas and restrict movements to the open space facilities.

Noise. Increased human activity in the Land Exchange Area is expected to result in long-term noise effects in the area. Noise is expected to be greatest during daylight hours and therefore would be more of a disturbance to those species that are active during the daytime, as the noise levels are less at night. Nocturnal wildlife would not be significantly impacted while foraging and moving in open space areas. Noise pollution is not anticipated to decrease breeding of any special-status species.

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

Development-related noise such as traffic, operation of landscape maintenance equipment and tools (e.g., mowers, blowers, trimmers, wood chippers), active recreation at parks (particularly at night), and loud music from vehicles and residences can all have an effect on wildlife. The Land Exchange Alternative includes a Preserve Edge Plan, which provides a 100-buffer between the Otay Ranch RMP Preserve and development. The Preserve edge would act as a buffer for noise generated from development.

The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 6.1.

5.4 Jurisdictional Aquatic Resources

5.4.1 Direct Impacts to Jurisdictional Aquatic Resources

5.4.1.1 Temporary Direct Impacts

Impact V-10: Temporary Direct Impacts to Jurisdictional Aquatic Resources within the Land Exchange Area (off-site improvements only)

Short-term, construction-related, or temporary direct impacts to jurisdictional riparian habitat, and non-wetland waterways would primarily result from construction activities (**Impact V10**; Table 5-7, Impacts to Off-Site ACOE/RWQCB/CDFW Jurisdictional Aquatic Resources by Jurisdiction). Temporary impacts to off-site jurisdictional resources total 1.21 acres, and include 0.32 acres of cismontane alkali marsh, 0.32 acres of freshwater marsh, 0.35 acres of mulefat, 0.04 acres of southern willow scrub, and 0.18 acres of unvegetated channel. All temporarily impacted resources would be returned to pre-project conditions following construction. There are no temporary impacts to ACOE, RWQCB, or CDFW jurisdictional resources associated with on-site grading. Clearing, trampling, or grading of jurisdictional aquatic resources outside designated construction zones could occur and be significant (**Impact V-10**). These potential effects could damage individual plants 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. The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Sections 7.1 and 8.1.

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

Table 5-7
Impacts to Off-Site ACOE/RWQCB/CDFW
Jurisdictional Aquatic Resources by Jurisdiction (Acres)

Habitat Types/Vegetation Communities	City of Chula Vista		City of San Diego (Cornerstone Lands)				Otay Ranch		Total Impacts	
	Proctor Valley Road South		Proctor Valley Road South		Proctor Valley Road Central		North Proctor Valley Road ¹			
	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
ACOE/RWQCB Wetlands and CDFW Riparian Habitat										
Cismontane alkali marsh	0	0	0	0	0	0	0.32	0.08	0.32	0.08
Disturbed cismontane alkali marsh	0	0	0	0	0	0	0.01	0	0.01	0
Coastal freshwater marsh	0.32	0.11	0	0	0	0	0	0	0.32	0.11
Mulefat scrub	0.01	<0.01	0.18	0.07	0	0	0.15	0	0.35	0.07
Southern willow scrub	0	0	0	0	0	0	0.04	0.01	0.04	0.01
Subtotal	0.33	0.11	0.18	0.07	0	0	0.52	0.09	1.03	0.27
ACOE/RWQCB Non-Wetland Waters and CDFW Streambed										
Unvegetated channel	0	0	0.17	0.09	0.01	0.01	0	0	0.18	0.10
Subtotal	0	0	0.17	0.09	0	0	0	0	0.18	0.10
Total ACOE/ RWQCB and CDFW Resources	0.33	0.11	0.35	0.16	0.01	0.01	0.52	0.09	1.21	0.37

¹ An additional 0.04 acres of permanent impact associated with the widening of Proctor Valley Road North may be required if the County chooses to widen the current design from 40-feet to 48-feet wide. These impacts include 0.02 acres of cismontane alkali marsh, 0.01 acres of mule fat scrub and 0.01 acres of southern willow scrub.

5.4.1.2 Permanent Direct Impacts

Impact V-11: Permanent Direct Impacts to Jurisdictional Aquatic Resources within the Land Exchange Area (including off-site improvements)

The Land Exchange Alternative would permanently affect 1.30 acres of ephemeral non-wetland waters/streambed and 0.07 acres of wetlands/riparian habitat within the Village 14 Development Footprint (**Impact V-11**) (Table 5-8, Permanent Impacts to ACOE/RWQCB/CDFW Jurisdictional Aquatic Resources within the Village 14 Development Footprint). As shown in Table 5-8, the Land Exchange Alternative would also permanently disturb 0.37 acres of off-site jurisdictional aquatic resources due to planned improvements to Proctor Valley Road (**Impact V-**

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

11). Approximately 0.17 acres of this permanent impact would occur in the City of San Diego MSCP Cornerstone lands (Table 5-7). In addition, the improvements to Proctor Valley Road would also permanently disturb 0.11 acres of wetland/riparian habitat in the City of Chula Vista (Table 5-7). Impacts associated with Proctor Valley Road North would impact 0.09 acres of wetland/riparian habitat (Table 5-7). An additional 0.04 acres of permanent impact associated with the widening of Proctor Valley Road North may be required if the County chooses to widen the current design from 40-feet to 48-feet wide. These impacts include 0.02 acres of cismontane alkali marsh, 0.01 acres of mule fat scrub and 0.01 acres of southern willow scrub. The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Sections 7.1 and 8.1.

Table 5-8
**Permanent Impacts to ACOE/RWQCB/CDFW Jurisdictional Aquatic Resources within
the Village 14 Development Footprint (Acres)**

Habitat Types/Vegetation Communities	Land Exchange Area	Village 14	Off-Site	Village 14 Development Footprint Total Permanent Impacts
<i>ACOE/RWQCB Wetlands and CDFW Riparian Habitat</i>				
Cismontane alkali marsh (including disturbed)	8.36	0.07	0.08	0.15
Coastal freshwater marsh	0.43	--	0.11	0.11
Mulefat scrub	0.98	--	0.07	0.07
Southern coast live oak riparian forest	0.71	--	--	--
Southern willow scrub	0.33	--	0.01	0.01
<i>Total ACOE/ RWQCB and CDFW Resources</i>	<i>10.81</i>	<i>0.07</i>	<i>0.27</i>	<i>0.34</i>
<i>ACOE/RWQCB Non-Wetland Waters and CDFW Streambed</i>				
Unvegetated channel ^a	4.83	1.30	0.10	1.40
Open water	0.44	--	--	--
<i>Subtotal</i>	<i>5.25</i>	<i>1.30</i>	<i>0.10</i>	<i>1.40</i>
Total ACOE/ RWQCB and CDFW Resources	16.08	1.37	0.37	1.73

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

^a 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.

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

5.4.2 Indirect Impacts to Jurisdictional Aquatic Resources

5.4.2.1 *Temporary Indirect Impacts*

Impact V-12: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Land Exchange Area (including off-site improvements)

Potential short-term or temporary indirect impacts to jurisdictional resources in the Land Exchange Area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact V-12**). Potential short-term indirect impacts that could affect all the jurisdictional resources that occur adjacent to development are described in detail as follows.

Generation of Fugitive Dust. The effects of fugitive dust on jurisdictional aquatic features are similar to those described for vegetation communities in Section 5.1.2.

Changes in Hydrology. The effects of changes in hydrology on jurisdictional aquatic features are similar to those described for vegetation communities in Section 5.1.2.

Chemical Pollutants. The effects of chemical pollutants on jurisdictional aquatic features are similar to those described for vegetation communities in Section 5.1.2.

The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Sections 7.1 and 8.1.

5.4.2.2 *Permanent Indirect Impacts*

Impact V-13: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Land Exchange Area

Long-term or permanent indirect impacts could result from the proximity of the Land Exchange Area to jurisdictional aquatic resources after construction. Permanent indirect impacts that could affect jurisdictional resources include generation of fugitive dust, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, alteration of the natural fire regime, and shading (**Impact V-13**). Each of these potential indirect impacts is discussed as follows.

Generation of Fugitive Dust. The effects of fugitive dust on jurisdictional resources are similar to those described for vegetation communities in Section 5.1.2.

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

Chemical Pollutants. The effects of chemical pollutants on jurisdictional resources are described in vegetation communities in Section 5.1.2.

Altered Hydrology. As described in Section 5.1.2, for purposes of analyzing potential indirect impacts associated with hydrology, urban runoff associated with landscaping and irrigation is described here. Water would be used for landscaping purposes within residential units and maintained shared spaces (e.g., parks). These sources may alter the on-site hydrologic regime. However, potential impacts would be reduced by design features such as biofiltration/hydromodification basins, drainage improvements for off-site road improvements, and disconnection of impervious surfaces such as pitching sidewalks and driveways to pervious landscaped areas. Long-term indirect impacts to jurisdictional waters associated with altered hydrology are not expected.

Non-Native, Invasive Plant and Animal Species. The effects of non-native, invasive plant and animal species on jurisdictional aquatic resources are similar to those described for vegetation communities in Section 5.1.2.

Increased Human Activity. The effects of increased human activity on jurisdictional resources are similar to those described for vegetation communities in Section 5.1.2.

The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Sections 7.1 and 8.1.

5.5 Habitat Connectivity and Wildlife Corridors

5.5.1 Direct Impacts to Habitat Connectivity and Wildlife Corridors

5.5.1.1 *Temporary Direct Impacts*

Impact WLC-1: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors

Under the Land Exchange Alternative, short-term or temporary direct impacts to habitat connectivity and wildlife corridors would primarily result from construction activities. Temporary impacts off-site would total 33.4 acres (Table 5-1a). In addition, construction-related impacts to vegetation communities such as clearing, trampling, or grading of vegetation outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could impact wildlife movement through these areas by reducing cover and food sources (**Impact WLC-1**). The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 9.1.

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

5.5.1.2 *Permanent Direct Impacts*

The Land Exchange Alternative meets the County's definition of a core wildlife area: a large block of habitat (typically 500 acres or more not limited to project boundaries, although smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species. Currently the Land Exchange Alternative functions as part of a large habitat block, as discussed in Section 4.8. One of the objectives of the Otay Ranch RMP was to design the preserve to provide adequate habitat linkages and wildlife corridors to accommodate gene flow, increased foraging habitat, access to larger habitat areas by larger predators, and increased overall wildlife movement based on the corridors identified in Baldwin Otay Ranch Wildlife Corridors Studies (Ogden 1992b). The Ogden wildlife corridor study, which is recognized as the foundational wildlife corridor study for the area, describes the Proctor Valley area as providing a northerly wildlife movement corridor between San Miguel Mountain and the Jamul Mountains (City of Chula Vista and County of San Diego 1993b). The Development Footprint for the Land Exchange Alternative is largely located within the originally designated developable lands as identified in the RMP, which relied upon the findings of the Ogden wildlife corridor study. The Land Exchange Alternative, including the land exchange and boundary adjustment, has been designed to retain the functions and values of the corridors identified in Otay Ranch Wildlife Corridor Study (Ogden 1992b) and the BRCAs identified in the Final MSCP (MSCP 1998). By eliminating development within Planning Areas 16/19, the Land Exchange Alternative provides for an even larger block of habitat than was originally contemplated. As described in the Otay Ranch RMP, revisions to the original Proctor Valley Development Footprint were specifically made as a part of the original Otay Ranch GDP/SRP approval in 1993 for purposes of resolving general Otay Ranch RMP Preserve design and wildlife habitat connectivity issues. The revisions included the following:

- Significant areas of development were eliminated from the proposed development in central Proctor Valley on both the northerly and southerly boundaries of the regional wildlife corridor.
- The proposed conference center in the middle of the Proctor Valley Parcel was eliminated to avoid any encroachment into the wildlife corridor.
- Development in the inverted L was eliminated from the ravine and moved well back onto the ridgetop so that animals could access the ravine, which leads them northwest over the saddle and into the Sweetwater Reservoir.¹⁴

¹⁴ Note, the inverted L is not a part of this analysis and has been subsequently acquired for Preserve.

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

- All of the proposed housing along the ridgetop above the lake at the southerly entrance to Proctor Valley, and the southernmost portions of the proposed development bubble in central Proctor Valley, were eliminated to reduce impacts to coastal sage and the local wildlife corridor from Jamul Mountains to Proctor Valley.

With these revisions, the Proctor Valley regional wildlife corridor (i.e., R1 of Figure 4-5 and Figure 5-3, Habitat Linkages/Movement Corridors Post Land Exchange and Boundary Line Adjustment) was designed to become an extensive linkage, with a required minimum of 1,300 feet at the northwest end to 2,200 feet at the southeast end, resulting in protection of rim-to-rim topography. As shown in Figure 5-3, the corridor ranges from approximately 1,600 feet wide to 2,600 feet wide where it passes through the Land Exchange Area. To the west of the Land Exchange Area, corridor R1 passes through public lands owned by USFWS much of the way to Sweetwater Reservoir (Figure 5-3). The local corridor L4 is located to the east of PV1 and to the west of other Village 14 development. The Ogden wildlife corridor study states that this corridor is 500 to 700 feet wide. As L4 passes alongside the western portion of development, the corridor was originally designed to be 800-900 feet wide, however with the elimination of development to the west of L4, the corridor now unconstrained to the west. L4 primarily passes through CDFW-owned land and portions of the Land Exchange Alternative applicant's Otay Ranch RMP Preserve, as well as connects to local corridor L3 to the east which passes through BLM and other publicly owned lands.

The focal species chosen for the *Baldwin Otay Ranch Wildlife Corridors Studies Report* (Ogden 1992b) included larger mammals such as mule deer (*Odocoileus hemionus*), mountain lion (*Pelis concolor*), and bobcat (*Pelis rufus*) as well as two bird species: California gnatcatcher and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). These five species were chosen as the focal species for the corridor study because they “naturally occur in low densities and that are unwilling or unable to cross large areas of developed or otherwise unfavorable habitat” (Ogden 1992b). According to Ogden, corridors are necessary for the conservation of these species. Other species expected to use this crossing include coyotes, rabbits, birds common in chaparral communities, and a variety of invertebrates.

Given the dense chaparral in this area, larger mammals such as coyotes and mule deer will be able to use this corridor to move north or south because the chaparral provides visual cover from human activity and residences where the corridor passes through the development. Birds and invertebrates would be able to move freely through this area, including where the corridor passes through development since it is wide enough to provide uninterrupted movement. With the open space connections, corridor widths, and wildlife crossings (discussed below) between L3 and L4 corridors, the Land Exchange Alternative is not anticipated to impact long-term wildlife movement between the Jamul Mountains and San Miguel Mountain.

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

Since the above revisions were adopted in 1993, the Land Exchange Alternative was further redesigned to achieve an overall greater Preserve (both Otay Ranch RMP Preserve and surrounding CDFW Preserve lands) configuration through a land exchange and boundary adjustment (see Appendix A). The boundary adjustment provides for the preservation and improvement of the regional corridor (R1), which links the Jamul Mountains and San Miguel Mountain. The additional Preserve lands given as part of the boundary adjustment would supplement the function of the R1 corridor by providing a wider and more northern route as development is clustered near Proctor Valley Road and pulled away from the eastern portion of Village 14. This corridor allows for species to travel throughout the Preserve without the potential for development obstructions or edge effects. Combined, the land exchange and boundary adjustment preserves the local L4 corridor for focal bird and mammal species within the Proctor Valley drainage. In addition, the land exchanged and given to the state to the north of the proposed development expands upon that portion of L4 to 3,600 feet and ensures connection to L3.

Additionally, in conformance with the Otay Ranch GDP/SRP and Otay Ranch RMP, two wildlife crossings would be provided under Proctor Valley Road to allow for wildlife movement through natural topography (Figure 5-3; Figure 5-4, Wildlife Crossings; and Figure 5-5, Wildlife Crossings). Requirements for culverts or wildlife crossings, according to the MSCP County Subarea Plan, include minimizing roads that cross wildlife corridors; installing fencing that channels wildlife to underpasses or culverts; designing underpasses such that the length-to-width ratio is less than 2; using bridges rather than tunnels; installing sound insulation, including a natural substrate that is vegetated; providing line-of-sight through the tunnel; and including low-level illumination, if needed (County of San Diego 1997). One of the guidelines under Policy 4.1 of the Otay Ranch RMP is to incorporate wildlife crossings into design of infrastructure facilities. The Otay Ranch RMP does not provide guidance regarding the specific design requirements for crossings (City of Chula Vista and County of San Diego 1993b). Therefore, the design of the wildlife crossings were developed to incorporate the MSCP County Subarea Plan design criteria guidelines to the extent feasible and also to be consistent with the scientific literature to the maximum extent practical. The wildlife crossings were all designed to have fencing to funnel wildlife movement; to have a natural bottom, where feasible, with native vegetation at either end; and to have the size and height of opening so that there is direct line of site from one end to the other. Any grading that occurs would be restored to native habitat to encourage wildlife use. Because there is natural light within the crossings, low-level illumination would not be included.

All of the wildlife crossings were designed according to scientific literature that emphasize openness as a significant factor in determining the relative effectiveness of structures in terms of use by deer and other species (Reed et al. 1975). Openness is a measure of ambient light in the

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

passage; the larger the factor, the less of a narrow “tunnel” appearance of the structure. The openness factor was calculated using the following equation: (height x width)/length in meters (Reed et al. 1975). A study from Donaldson (2005) indicates that, for deer, the critical feature for using a culvert is the height of the culvert. According to that study, culverts must be at least 12 feet high to be used by deer. Even at very low openness ratio, deer would use the culvert if it had a height of 12 feet. Reed et al. (1979) suggest a minimum openness ratio of 0.6 meters for mule deer underpasses. Each of these achieves the higher 0.6 meters openness ratio suggested by Foster and Humphrey (1995). Therefore, either a minimum height of 12 feet or a combination of width, height, and length dimensions such that the openness factor (height x width)/length is a minimum of 0.6 meters, is appropriate for mule deer. Providing a movement corridor suitable for mule deer ensures that other large mammals would also use the corridor. The openness ratio provides a quantitative analysis to be used to indicate the success of a wildlife crossing. One of the MSCP County Subarea Plan design criteria guidelines is to provide a crossing with the size and height of opening so that there is direct line of site from one end to the other. Since the openness ratio was designed to measure of ambient light in the passage, all crossings were designed to meet the minimum openness ratio rather than relying solely on the 2:1 length to width ratio suggested in the MSCP County Subarea Plan.

Wildlife Crossing 1 would be located along the central portion of Proctor Valley Road and would provide a connection across the road for regional corridor R1 (see Figures 5-3 and 5-4). It would be a pre-cast span-arched culvert which allows for a soft bottom. Currently, there are no crossings provided for wildlife movement to cross Proctor Valley Road. The crossing would be under the road and be 12 feet high at the highest point, 142 feet long, and 34 feet wide, making the length-to-width ratio 4:1. The openness ratio for this crossing would be 0.78 meters which meets the minimum openness ratio. The crossing would be placed approximately 20 feet below road grade of Proctor Valley Road, thus encouraging wildlife to use the undercrossing as opposed to crossing at-grade.

Wildlife Crossing 2 would be located along the southern portion of Proctor Valley Road within City of San Diego Cornerstone Lands. There is currently a crossing at this location that is not specific for wildlife, but is designed to allow water to flow under and over Proctor Valley Road. In its current design, larger wildlife cross this area at-grade. The revised crossing would provide for improved wildlife movement and limit wildlife from crossing the road. The crossing would be underneath the road and be 12 feet high, 68 feet long, and 160 feet wide, with three bridge piles located within the center, making the length-to-width ratio less than 1:1. The openness ratio for this crossing would be 3.7 meters (Figure 5-5). The bridge would have a natural bottom to convey flows for the Proctor Valley drainage. The crossing would meet the MSCP Plan’s design

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

criteria guideline of a less than 2:1 length-to-width ratio, and more importantly would meet the minimum openness ratio.

The land exchange and boundary adjustment, in conjunction with the Land Exchange Alternative design, retains the functions and values of the corridors identified within the Ogden study (1992b) and expands the wildlife corridor north of the proposed development. Therefore, the Land Exchange Alternative is not anticipated to impact long-term wildlife movement between the Jamul Mountains and San Miguel Mountain.

5.5.2 Indirect Impacts to Habitat Connectivity and Wildlife Corridors

5.5.2.1 *Temporary Indirect Impacts*

Impact WLC-2: Temporary Indirect Impacts to Habitat Connectivity and Wildlife Corridors

As discussed in Section 5.5.1, the Land Exchange Alternative functions as part of a large habitat block and would not have any direct impacts on habitat linkages or movement corridors but would instead preserve existing linkages and corridors. However, wildlife movement through these corridors may be indirectly impacted by adjacent development (**Impact WLC-2**). Potential short-term indirect impacts to habitat connectivity and wildlife corridors could result from increased human activity, lighting, and noise, and during construction (**Impact WLC-2**). These potential impacts are described in detail as follows.

Increased Human Activity. Construction associated with the Land Exchange Alternative would likely take place during the daytime and would not affect wildlife species such as mammals that are most active in evenings and nighttime. Wildlife species such as birds, rabbits, and lizards are active in the daytime, but use a variety of habitats and could continue using other areas within and adjacent to the development for wildlife movement. Increasing the human presence adjacent to development could also increase the amount of domestic pets within the Otay Ranch RMP Preserve. Because of that, all dogs within the open space would be required to be on leash while the Homeowners Association will be responsible for informing homeowners of the impacts that domestic pets can have on native habitat and wildlife.

Lighting. Some localized security-related lighting may be required during construction and/or operations; lighting would conform to County of San Diego outdoor lighting requirements. These impacts would be short term; therefore, lighting associated with the Land Exchange Alternative is not expected to result in significant impacts to wildlife movement.

Noise. Construction associated with the Land Exchange Alternative would result in the production of noise and ground vibrations through the use of mechanized equipment and

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

increased traffic within the area. Noise would most likely only be a disturbance to those species that are active during the daytime, as the noise levels are less at night. Most wildlife species that would use the area as a habitat corridor are nocturnal, and, therefore, would not be impacted while foraging, moving, etc. Noise pollution is not anticipated to hamper breeding of any special-status species.

The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 9.1.

5.5.2.2 Permanent Indirect Impacts

Impact WLC-3: Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors

Long-term indirect impacts to habitat connectivity and wildlife corridors include habitat fragmentation, human activity, lighting, and noise from the proposed urban development, recreational facilities, and human activity (**Impact WLC-3**). Each of these potential indirect impacts is discussed as follows.

Habitat Fragmentation. The Land Exchange Alternative would impact approximately 601.7 acres of vegetation communities and land covers, resulting in habitat fragmentation. Habitat fragmentation can reduce diversity of species, spread invasive species, and reduce access to important habitats (Lovich and Ennen 2011). In addition, habitat fragmentation and isolation of wildlife populations may cause extinction of local populations as a result of two processes: reduction in total habitat area, which reduces effective population sizes, and insularization of local populations, which affects dispersal rates (Wilcox and Murphy 1985; Wilcove et al. 1986).

Increased Human Activity. The effects of increased human activity would be the same as is discussed in Section 5.5.2.1.

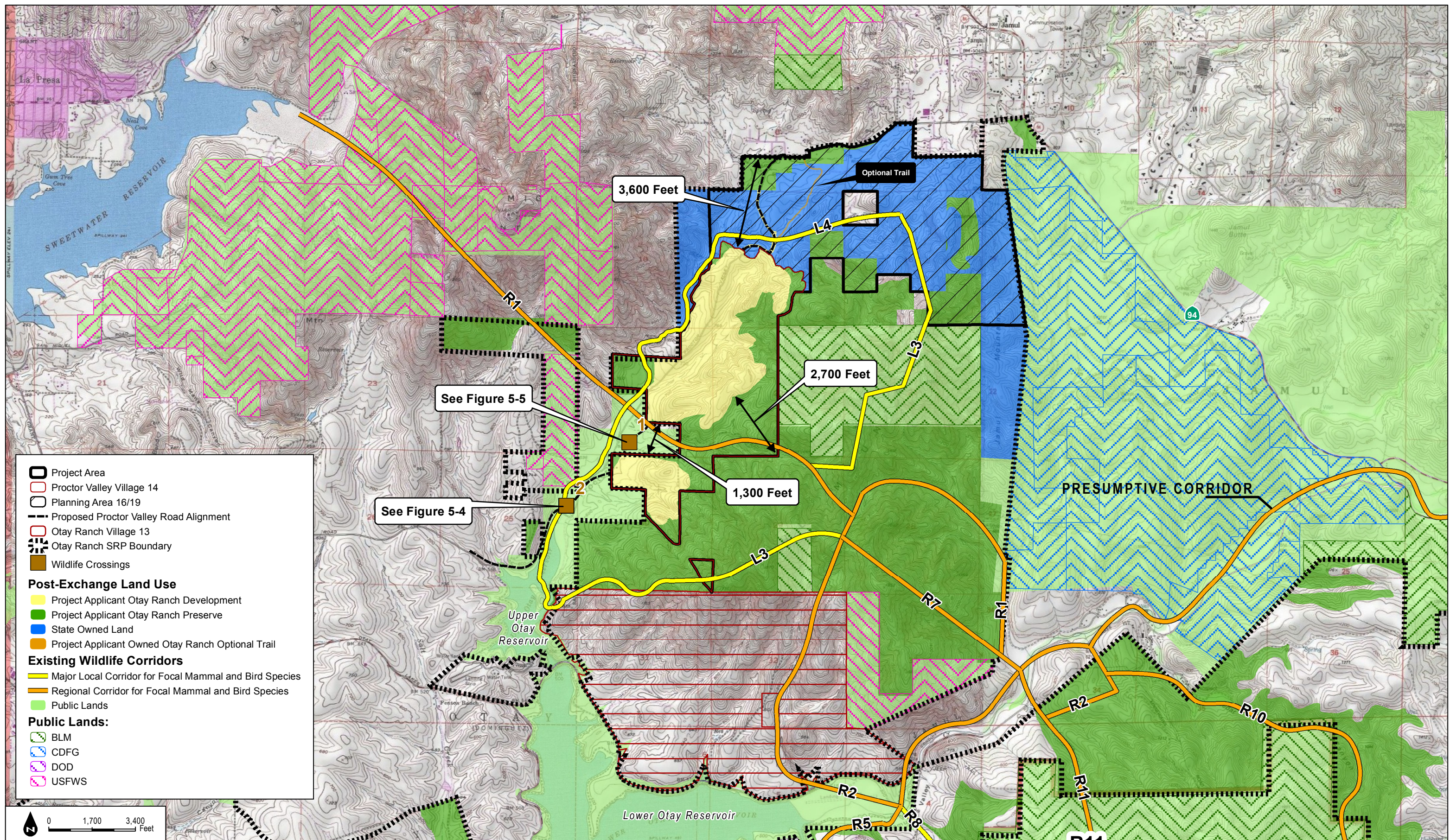
Lighting. The effects of increased lighting would be the same as is discussed in Section 5.5.2.1.

Noise. The effects of increased noise would be the same as is discussed in Section 5.5.2.1.

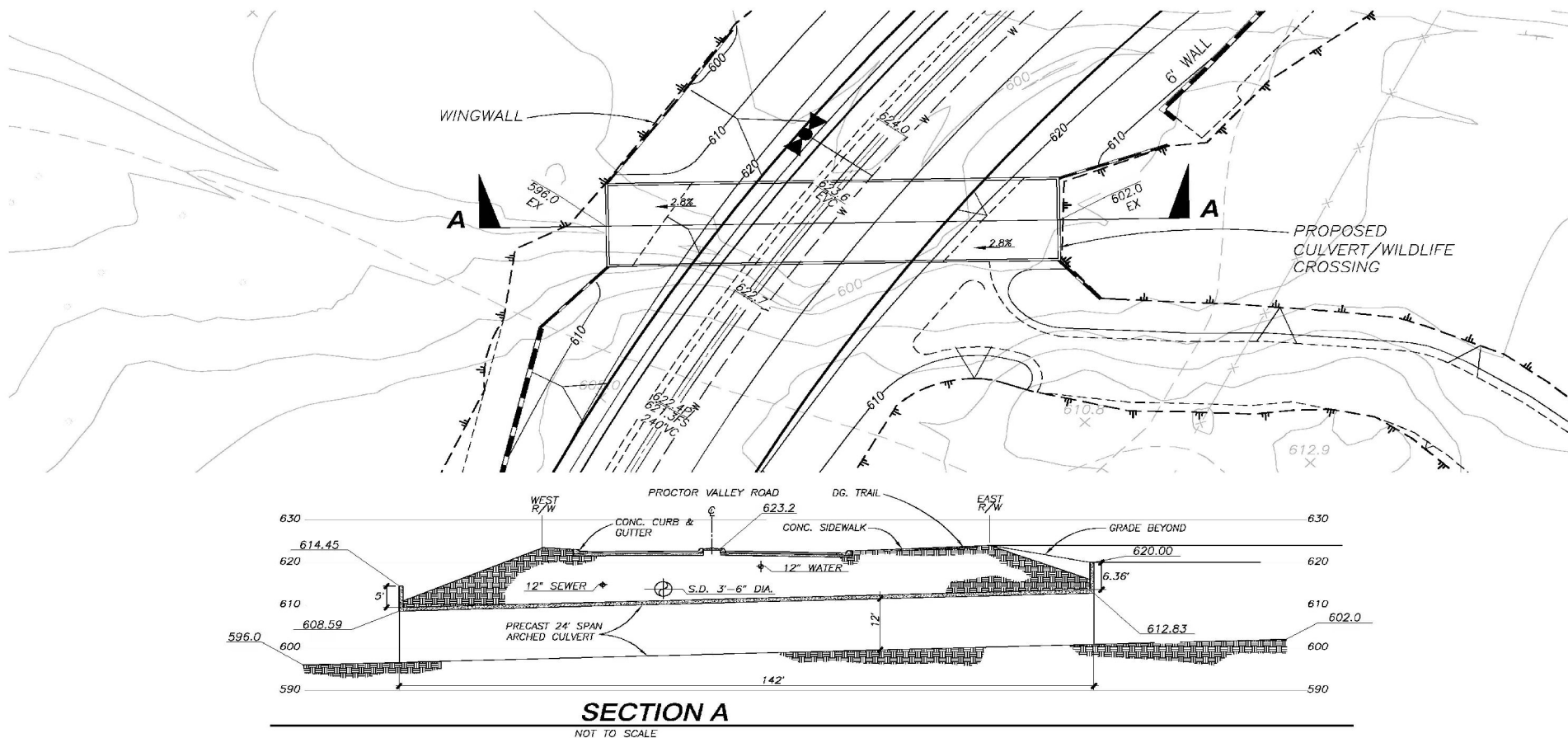
The significance determination for these potential impacts is determined through application of the County Significance Guidelines described in Section 9.1.

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

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OPENNESS RATIO CALCULATIONS

LENGTH = 142' WIDTH = 34' HEIGHT = 12'
 = A/L (M)
 = 360 SF / 142' = 2.53'
 OPENNESS RATIO = 0.78 M

PREPARED BY:

HUNSAKER & ASSOCIATES
 SAN DIEGO, INC.
 PLANNING: 6557 Maple Street
 BUILDING: San Diego, CA 92121
 SURVEYING: (619) 585-4500 FAX: (619) 585-4501

WILDLIFE CROSSING
VILLAGE 14
 CITY OF SAN DIEGO

SHEET
1
 OF
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**Biological Resources Technical Report for the Otay Ranch
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Village 14 and Planning Areas 16/19 Land Exchange Alternative**

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

6 SPECIAL-STATUS SPECIES

6.1 Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance (County of San Diego 2010b) that follow are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The significance criteria include analysis of whether:

- Guideline 4.1:** The project would have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special-status species listed in local or regional plans, policies, or regulations, or by CDFG or USFWS.
- A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.
 - B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern (SSC). Impacts to these species are considered significant; however, impacts of less than 5% of the individual plants or of the sensitive species' habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon.
 - C. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.
 - D. The project may impact arroyo toad aestivation, foraging, or breeding habitat. Any alteration of suitable habitat within 1 kilometer (3,280 feet) in any direction of occupied breeding habitat or suitable stream segments (unless very steep slopes or other barriers constrain movement) could only be considered less than significant if a biologically based determination can be made that the project would not impact the aestivation or breeding behavior of arroyo toads.
 - E. The project would impact golden eagle habitat. Any alteration of habitat within 4,000 feet of an active golden eagle nest could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the long-term survival of the identified pair of golden eagles.

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

- F. The project would result in the loss of functional foraging habitat for raptors. Impacts to raptor foraging habitat is considered significant; however, impacts of less than 5% of the raptor foraging habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of any raptor species.
- G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, although smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species. Alteration of any portion of a core habitat could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the core area and the species it supports.
- H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing undeveloped lands or other natural habitat areas, to levels that would likely harm sensitive species over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.
- I. The project would impact occupied burrowing owl habitat.
- J. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.
- K. The project would impact occupied Hermes copper habitat.
- L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire-fuel modification, and/or other noise-generating activities such as construction.

Species	Breeding Season
Coastal cactus wren	February 15 to August 15
Least Bell's vireo	March 15 to September 15
Southwestern willow flycatcher	May 1 to September 1

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

Species	Breeding Season
Tree-nesting raptors	January 15 to July 15
Ground-nesting raptors	February 1 to July 15
Golden eagle	January 1 to July 31
Light-footed clapper rail	February 15 to September 30

6.2 Analysis of Project Effects

6.2.1 Project Effects Relevant to Guideline 4.1.A (Federally Listed and State-Listed Species)

Only one federally and state-listed plant species, Otay tarplant, occurs within the Land Exchange Area. Otay tarplant is listed as federally threatened and state endangered. Otay tarplant was observed within the proposed Proctor Valley Road South improvement area located within the reach of Proctor Valley Road (defined as the “easternmost reach”) of the Rolling Hills Ranch project, which is a Covered Project with hardline designations in the City of Chula Vista’s MSCP Subarea Plan. As described in Section 2.4.2, City of Chula Vista MSCP Subarea Plan, impacts associated with this reach of Proctor Valley Road were analyzed as part of the Rolling Hills Ranch project’s CEQA analyses. An easement to accommodate the future alignment of Proctor Valley Road’s easternmost reach was granted per the City of Chula Vista’s Final Map 14756A. As part of the Letter Agreement between USFWS, CDFW, City of Chula Vista, and Pacific Bay Homes dated July 19, 2001, no further mitigation for narrow endemic species or other Covered Species, including Otay tarplant, are required within this easement area. This Letter Agreement was incorporated into the City of Chula Vista’s MSCP Subarea Plan. Thus, direct off-site impacts to Otay tarplant individuals (a narrow endemic species) are not considered significant and are not discussed further.

No state-listed wildlife species were observed in the Land Exchange Area or have high potential to occur in the Land Exchange Area. Two federally listed endangered or threatened wildlife species were detected within the Land Exchange Area: San Diego fairy shrimp and coastal California gnatcatcher. The Land Exchange Alternative avoids impacts to known locations of San Diego fairy shrimp. All of the features containing San Diego fairy shrimp would remain within either CDFW or Otay Ranch RMP Preserve lands.

Coastal California gnatcatcher was observed occurring in the Land Exchange Area, including both the Development Footprint and Preserve areas (CDFW and Otay Ranch RMP). The Land Exchange Alternative supports foraging and nesting opportunities that would be impacted by the Development Footprint. The Land Exchange Alternative would result in impacts to coastal California gnatcatcher designated critical habitat within the Village 14 Development Footprint and off-site improvement

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

areas. A total of 3.5 acres would be impacted from the Village 14 Development Footprint. Off-site improvement areas would impact 0.3 acres of coastal California gnatcatcher critical habitat, consisting of 0.2 acres of permanent impacts and 0.1 acres of temporary construction impacts, which will be restored upon Land Exchange Alternative completion.

Quino checkerspot butterfly was not detected, but potential habitat with host plant occurs within the Land Exchange Area. Although Quino checkerspot butterfly, federally listed as endangered, has not been observed within the Land Exchange Area for the 2 years (2015 and 2016) of focused surveys, development of the Land Exchange Alternative would result in impacts to 610.8 acres of potential habitat. The Land Exchange Alternative includes 1,208.8 acres of USFWS-designated critical habitat for this species, of which 642.7 acres would be permanently impacted by development (Figure 5-2, Impacts to Critical Habitat). Of the 642.7 acres of critical habitat, 432.1 acres is considered potential habitat based on excluded survey areas, and 404.2 acres are located within Preserve lands.

Hermes copper butterfly is a candidate for federal listing and therefore included in this section, but has not been observed with the Land Exchange Alternative based on field surveys in 2015 and 2017; however, development will result in impacts to 15 acres suitable habitat. Hermes copper butterfly does not have designated critical habitat.

Impacts to San Diego Fairy Shrimp

Although the MSCP identifies San Diego fairy shrimp as a Covered Species, the County has taken the position that, based on a 2006 federal court decision, the plan's protections for this species are inadequate for purposes of providing federal ESA take coverage. Therefore, impacts to San Diego fairy shrimp or its habitat must be assessed and mitigated on a project-specific basis. The Land Exchange Alternative would avoid impacts to known locations of San Diego fairy shrimp. Consequently no significant impacts to San Diego fairy shrimp are expected. Nevertheless, the County is requiring a preventative mitigation measures for this species, which, if a take permit is required, includes compliance with any permit conditions required by the USFWS for take of San Diego fairy shrimp (mitigation measure (M-) **BI-6**).

Impacts to Coastal California Gnatcatcher

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Impacts to coastal California gnatcatcher from construction-related activities include unintentional habitat and species loss, temporary impacts to suitable habitat, introduction of invasive species, and disruption of wildlife activities by construction activities adjacent to remaining suitable habitat would be considered significant (discussed further in Section 5.3.1.1)

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

(Impact W-1). Short-term direct impacts to suitable habitat for coastal California gnatcatcher will be mitigated through biological monitoring to ensure that no impacts occur outside of the Development Footprint (**M-BI-1**), through the placement of temporary construction fencing (**M-BI-2**), preconstruction surveys for nesting birds and setbacks (**M-BI-5**), restoration of temporarily impacted habitat (**M-BI-11**) and noise related measures (**M-BI-18**). The full text of mitigation measures is presented in Section 6.4, Mitigation Measures and Design Considerations. With these measures, potentially significant impacts to coastal California gnatcatcher would be mitigated to less than significant levels.

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Loss of coastal California gnatcatcher habitat from Land Exchange Alternative development would be considered significant (**Impact W-2**; discussed further in Section 5.3.1.2). The Land Exchange Alternative would result in the loss of 142.7 acres of coastal sage scrub (including disturbed and baccharis-dominated varieties). Development would impact habitat surrounding one location with an observed male. Long-term direct impacts would be mitigated by habitat conveyance and preservation of existing populations of sensitive species, suitable habitat, and special-status vegetation communities (**M-BI-3**); and permanent fencing and signage (**M-BI-4**). Overall, the Land Exchange Alternative would convey and exchange approximately 654.4 acres of coastal sage scrub to the Preserve, much of which is found in large patches within the Otay Ranch RMP Preserve in Village 14 and both Otay Ranch RMP Preserve and CDFW Preserve lands in Planning Area 16 and has been designated as very high value habitat. The full text of mitigation measures is presented in Section 6.4. With these measures, the Land Exchange Alternative's potentially significant direct impacts to coastal California gnatcatcher habitat would be mitigated to less than significant levels.

As described in Table 4-3, the Land Exchange Alternative provides for the preservation of habitat surrounding the three pairs in the Otay Ranch RMP Preserve in Village 14. In addition, there is one coastal California gnatcatcher pair and one male within the Planning Areas 16/19 Preserve. Implementation of the Land Exchange Alternative would contribute to the preservation of known locations of coastal California gnatcatcher along with suitable habitat for the species through implementation of **M-BI-3**. Therefore, the Land Exchange Alternative would be in compliance with the RMP requirements and impacts would be **less than significant**.

Impact W-5: Permanent Direct Impacts to Birds under the MBTA

If any active nests or the young of coastal California gnatcatcher are impacted through direct grading, these impacts would be considered significant, based on FESA and the MBTA. As described under **M-BI-5**, vegetation clearing, grubbing, and grading should occur outside the

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

typical nesting period for most bird species and raptors (i.e., outside the period February 1–August 31 and as early as January 1 for some raptor species) to limit impacts to nesting birds and raptors. If removal of habitat on the proposed area of disturbance must occur during the nesting season, a nesting bird survey must be conducted within 72 hours of any brush-clearing and earthmoving activities. A biological monitor will be required to be on site to flush wildlife from any occupied habitat areas immediately prior to brush-clearing and earthmoving activities, thus reducing the potential for direct impacts (**M-BI-1**). Therefore, impacts would be **less than significant**.

Impacts to Quino Checkerspot Butterfly

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Impacts to suitable habitat for Quino checkerspot butterfly habitat from construction-related activities include unintentional habitat loss, temporary impacts to suitable habitat, introduction of invasive species, and potential disruption of wildlife activities by construction activities adjacent to remaining suitable habitat would be considered significant (discussed further in Section 5.3.1.1). Short-term direct impacts to Quino checkerspot butterfly habitat will be mitigated through biological monitoring to ensure that no impacts occur outside of the Development Footprint (**M-BI-1**), through the placement of temporary construction fencing (**M-BI-2**), and restoration of temporarily impacted habitat (**M-BI-11**). The full text of mitigation measures is presented in Section 6.4, Mitigation Measures and Design Considerations. With these measures, potentially significant impacts to Quino checkerspot butterfly habitat would be mitigated to **less than significant** levels.

Impact W-4: Long-Term Direct Impacts to Quino Checkerspot Butterfly Suitable Habitat

As discussed in Section 5.3.1.2, the Land Exchange Alternative will have impacts to 610.8 acres of potential habitat for Quino checkerspot butterfly, resulting in a **significant** impact (**Impact W-4**). This impact would be mitigated to less than significant through **M-BI-3** (habitat conveyance and preservation), **M-BI-4** (permanent fencing and signage), **M-BI-7** (Quino checkerspot butterfly take authorization), **M-BI-8** (Quino Checkerspot butterfly habitat preservation), and **M-BI-9** (Quino checkerspot butterfly management/enhancement plan) are described in Section 6.4. Within the on-site conveyance acreage and the land exchange, 510.1 acres of potential habitat will be preserved.

The Land Exchange Alternative contemplates an agreed upon Land Exchange with the State of California and Otay Ranch RMP/MSCP Preserve Boundary Adjustment that preserves a large block of suitable habitat for Quino checkerspot butterfly. The Quino checkerspot butterfly

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

habitat within the Otay Ranch RMP Preserve contains a mosaic of open habitat communities along with some chaparral areas, hilltop areas, cryptogammic soils, and scattered host plant areas throughout. The habitat within the Otay Ranch RMP Preserve is also connected to other large blocks of preserved habitat associated with the Rancho Jamul Ecological Preserve, City Cornerstone Lands, and any others that are considered suitable for Quino checkerspot butterfly. As shown in Figure 6-1, Preservation of Documented QCB Sightings in County Subarea Plan, the preserved lands that occur adjacent to Village 14 include portions of the Rancho Jamul Ecological Preserve, City of San Diego Cornerstone Lands, and a parcel to the east that was acquired by the BLM as conserved lands. The preserved lands that occur adjacent to Planning Areas 16/19 include portions of the Rancho Jamul Ecological Reserve. There have been substantial numbers of Quino checkerspot butterfly documented to the south of the Land Exchange Area, to the east of Otay Reservoir, and also farther south. The Land Exchange Alternative's design would maintain contiguous habitat with these locations with areas to the north on San Miguel Mountain; provide widespread Quino checkerspot butterfly resource areas, including hilltops; provide nectaring resources; and provide host plant patches to help maintain metapopulation dynamics for the species.

The preservation of these contiguous areas would allow for the uninterrupted movement of Quino checkerspot butterfly throughout both Preserve systems. This would provide opportunities for this species to expand its populations, if present within the Preserves, and connect to other open space. For these reasons, **M-BI-3** would mitigate the Land Exchange Alternative impacts on Quino checkerspot butterfly to a less than significant level.

Impacts to Hermes Copper Butterfly

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Impacts to suitable habitat for Hermes copper butterfly habitat from construction-related activities include unintentional habitat loss, temporary impacts to suitable habitat, introduction of invasive species, and potential disruption of wildlife activities by construction activities adjacent to remaining suitable habitat, which would be considered significant (discussed further in Section 5.3.1.1). Short-term direct impacts to Hermes copper butterfly habitat will be mitigated through biological monitoring to ensure that no impacts occur outside of the Development Footprint (**M-BI-1**), and through the placement of temporary construction fencing (**M-BI-2**). Temporary direct impacts host plants is considered a permanent impact since that habitat will not be restored to pre-project conditions. The full text of mitigation measures is presented in Section 6.4, Mitigation Measures and Design Considerations. With these measures, potentially significant impacts to Hermes copper butterfly habitat would be mitigated to **less than significant** levels.

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

Impact W-6: Permanent Direct Impacts to Hermes Copper Butterfly Suitable Habitat

Based on the information gathered from the 2015 and 2017 habitat assessments there are 41.2 acres of suitable habitat for Hermes copper butterfly; however the 2015 and 2017 focused surveys concluded that the Land Exchange Alternative does not contain occupied Hermes copper butterfly habitat. Consequently, absent future occupation of land within the Land Exchange Area by Hermes copper butterfly, implementation of the Land Exchange Alternative would not impact Hermes copper butterfly individuals or occupied Hermes copper butterfly habitat. However, the Development Footprint contains 15.0 acres of habitat that could potentially support Hermes copper butterfly. Although no Hermes copper butterfly were observed in the Land Exchange Area, there is the possibility that Hermes copper butterfly could use or occupy the Land Exchange Alternative in the future. Therefore, the Land Exchange Alternative would result in impact to 15.0 acres of habitat that could support future Hermes copper butterfly populations (**Impact W-6**). Mitigation measures **M-BI-3** (habitat conveyance and preservation), and **M-BI-4** (permanent fencing and signage) described in Section 6.4 would mitigate for this impact through habitat preservation, including preservation of suitable habitat, and temporary construction fencing where needed to protect Otay Ranch RMP Preserve lands. Within the on-site conveyance acreage and the land exchange, 26.2 acres of suitable Hermes Copper butterfly habitat will be preserved (**M-BI-3**) (see Appendix K). The Land Exchange Area does not support occupied Hermes copper butterfly habitat; therefore, the conservation of 26.2 acres of suitable habitat for Hermes copper butterfly would reduce the permanent impacts to 15.0 acres of suitable habitat to a less than significant level. Preservation of 26.2 acres of habitat within the Land Exchange Area would contribute to the overall preservation of habitat for the species within the Otay Ranch RMP and MSCP Preserves. It should be noted that the 2015 and 2017 habitat assessments and focused surveys did not cover the entire Otay Ranch RMP Preserve. There may be additional host plants located in the Otay Ranch RMP Preserve areas not surveyed.

6.2.2 Project Effects Relevant to Guideline 4.1.B (County-Designated Special-Status Species)

6.2.2.1 Special-Status Plant Species (County List A and B Species)

Impact SP-1: Temporary Direct Impacts to Special-Status Plant Species

Short-term, construction-related, or temporary direct impacts to County List A and B plant species at the edge of the construction and the Otay Ranch RMP Preserve interface would primarily result from construction activities. Clearing, trampling, or grading of special-status plants outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to County List A and B plant species on

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

site would be significant, absent mitigation (**Impact SP-1**). These short-term direct impacts will be mitigated to a level **below significant** through implementation of mitigation measures M-BI-1 (biological monitoring), and M-BI-2 (temporary construction fencing). The full text of mitigation measures is presented in Section 6.4.

Impact SP-2: Permanent Direct Impacts to Special-Status Plant Species

The significance of potential permanent direct impacts to sensitive plant species is determined by applying the Otay RMP, MSCP Plan, County of San Diego MSCP Subarea Plan, City of San Diego MSCP Subarea Plan, and Chula Vista MSCP Subarea Plan described in Section 6.2.2.1 (see Table 6-1, Summary of Impacts to Sensitive Plants). Direct impacts to sensitive plant species adequately covered in the MSCP Subarea Plans are mitigated by following the provisions set out in the Otay Ranch RMP, the MSCP Plan, the MSCP County Subarea Plan, City of San Diego MSCP Subarea Plan, City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012), and Chula Vista MSCP Subarea Plan.

The RMP outlines objectives and policies for the preservation of sensitive plant species within Otay Ranch (Policies 2.6 and 2.7 under Objective 2 – Preservation of Sensitive Resources). These policies, which apply throughout Otay Ranch, include preservation goals for select sensitive plant species. The preservation goals, portrayed as a percentage of populations preserved, are based on known occurrences of special-status plants at the time of RMP development. The goal of the RMP is to retain these population percentages within the Preserve as Otay Ranch is developed and landowners convey property to the Preserve. Any populations recorded within the Otay Ranch RMP Preserve would contribute to the Ranch-wide Preserve and help to achieve the Otay Ranch RMP goals of conservation. The Land Exchange Alternative provides for more Otay Ranch RMP Preserve lands than originally designated in the Otay Ranch GDP/SRP. While the Land Exchange Alternative does include a boundary adjustment to allow for development on 43.6 acres of designated Preserve lands in Village 14, the boundary adjustment provides for a 268.5 net increase of Otay Ranch RMP Preserve above the required conveyance for project-related impacts. Accordingly, the Land Exchange Alternative does not reduce the Otay Ranch RMP Preserve. Appendix K provides the RMP goals and MSCP policies for applicable species within the Land Exchange Area's Otay Ranch RMP/MSCP Preserve.

By participating in the MSCP, following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through **M-BI-3**, the Land Exchange Alternative applicant would mitigate all impacts to Covered sensitive plant species to a less than significant level. Construction-related measures such as biological monitoring (**M-BI-1**) and temporary construction fencing (**M-BI-2**) will be implemented to reduce impacts outside of the Development Footprint from occurring. Impacts to San Diego marsh-elder (a non-Covered

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

Species within the Cities of San Diego and Chula Vista) are considered significant absent mitigation (**Impact BI-5**). In order to mitigate impacts on this sensitive species to a less than significant level, a Resource Salvage and Restoration Plan (**M-BI-10**) would be implemented prior to the issuance of land development permits, including clearing or grubbing and grading permits, for areas with salvageable sensitive biological resources.

A summary of impacts to County List A and B sensitive plants observed within the Land Exchange Area is provided in Table 5-3. By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through **M-BI-3**, the Land Exchange Alternative applicant would mitigate impacts to covered sensitive plant species as shown in Table 5-3 to a **less than significant** level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide preservation goals. The significance determination for impacts to County List A and B non-Covered Species and narrow endemics is provided in Table 6-1.

The 25 individuals of Otay tarplant mapped within the proposed Proctor Valley Road South improvement area are located within the reach of Proctor Valley Road (defined as the “easternmost reach”) of the Rolling Hills Ranch project, which is a Covered Project with hardlines in the City of Chula Vista’s MSCP Subarea Plan. As described in Section 2.8, impacts associated with this reach of Proctor Valley Road were analyzed as part of the Rolling Hills Ranch project’s CEQA analysis. An easement to accommodate the future alignment of Proctor Valley Road’s easternmost reach was granted per the City of Chula Vista’s Final Map 14756A. As part of the letter agreement between USFWS, CDFW, City of Chula Vista, and Pacific Bay Homes dated July 19, 2001, no further mitigation for narrow endemic species or other Covered Species, including Otay tarplant, are required within this easement area. Thus, direct off-site impacts to Otay tarplant individuals (a narrow endemic species) would be considered **less than significant**.

Because San Diego barrel cactus is a Covered Species within the City of San Diego MSCP Subarea Plan, impacts to eight individuals within the City of San Diego Cornerstone lands would be considered **less than significant**. The four individuals mapped within the proposed Proctor Valley Road South improvement area within City of Chula Vista lands are subject to restrictions described in Section 5.2.3 of the City of Chula Vista MSCP Subarea Plan and the Facilities Siting Criteria. Since this is a Covered Species, no mitigation is required. San Diego barrel cactus is also a Covered Species in the RMP and MSCP Plan. Therefore, impacts to San Diego barrel cactus within Village 14, the City of San Diego and the City of Chula Vista would be considered **less than significant**.

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

Table 6-1
Summary of Impacts to Sensitive Plants

Species Scientific Name Common Name	Regulatory Status: Federal, State, CRPR MSCP Coverage County List	Basis for Impact Evaluation	Significance Determination
<i>Dudleya variegata</i> Variegated dudleya	None None 1B.2 Covered, Narrow Endemic List A	Approximately 35 variegated dudleya individuals were recorded within the southern portion of the Village 14 Development Footprint.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to covered sensitive plant species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide preservation goals. However, since this species is a narrow endemic, additional mitigation in the form of translocation and plantings, will be provided (M-BI-10). Therefore, on-site impacts to this species would not be considered significant.
<i>Iva hayesiana</i> San Diego marsh-elder	None None 2B.2 Not Covered List B	Population estimates for this species' occurrence within the Land Exchange Area is approximately 6,101 individuals. There are impacts to 1,535 individuals associated with on-site development. An additional 10 plants would be impacted by improvements within City of San Diego, 19 within the City of Chula Vista and up to 4 within Otay Ranch RMP Preserve.	<p>By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3, the applicant would mitigate impacts to covered sensitive plant species to a less than significant level. With these measures the Land Exchange Alternative contributes to the Ranch-wide preservation goals. Therefore impacts would be mitigated in accordance with the Otay Ranch RMP and considered less than significant.</p> <p>Since San Diego marsh-elder is not a Covered Species, impacts to 10 individuals within the City of San Diego Cornerstone lands would be considered significant absent mitigation. M-BI-10 would reduce these impacts to less than significant by providing a 1:1 mitigation to impact ratio.</p> <p>The 19 individuals mapped within the proposed Proctor Valley Road South improvement area within City of Chula Vista lands are subject to restrictions described in 5.2.3 of the City of Chula</p>

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

**Table 6-1
Summary of Impacts to Sensitive Plants**

Species Scientific Name Common Name	Regulatory Status: Federal, State, CRPR MSCP Coverage County List	Basis for Impact Evaluation	Significance Determination
			Vista MSCP Subarea Plan and the Facilities Siting Criteria. Since this is not a Covered Species additional mitigation is required. Therefore, impacts to 19 San Diego marsh-elder individuals within the City of Chula Vista would be considered significant absent mitigation. M-BI-10 would reduce these impacts to less than significant by providing a 1:1 mitigation to impact ratio.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	None None 4.3 Not Covered List A	Approximately 174 individuals of this species were recorded in the Land Exchange Area. All 174 individuals would be impacted on site within Village 14 Development Footprints.	Robinson's pepper-grass has a CRPR of 4 and is more common than previously thought (previously CRPR 1B.2; CNPS 2016), this species is of limited distribution but not considered "rare" from a statewide perspective; therefore, proposed impacts are not expected to substantially affect long-term survival of the species (CNPS 2017). Although impacts to these species are not considered significant, suitable habitat for these species would be preserved within the open space.
<i>Salvia munzii</i> Munz's sage	None None 2B.2 Not Covered List B	Approximately 18,217 individuals were confirmed as Munz's sage. Munz's sage occurs throughout the Land Exchange Alternative. The proposed development would impact 11,303 individuals.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to covered sensitive plant species to a less than significant level. With these measures the Land Exchange Alternative contributes to the Ranch-wide preservation goals. Therefore impacts would be mitigated in accordance with the Otay Ranch RMP and considered less than significant.

CRPR: California Rare Plant Rank; MSCP: Chula Vista Subarea Plan Multiple Species Conservation Plan; County List A and B; FT = federally threatened; SE = state endangered; SR = state rare.

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

6.2.2.2 *Special-Status Wildlife Species (County Group 1 or State SSC)*

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Loss of special-status wildlife species (County Group 1 or state SSC animals) including individual amphibians, reptiles, and small mammals, and suitable habitat, from construction-related activities would result in short-term direct impacts that would be considered significant (**Impact W-1**). The Land Exchange Alternative includes biological monitoring to avoid unintentional impacts to species and habitat (**M-BI-1**); temporary construction fencing (**M-BI-2**); avoidance by preconstruction surveys for nesting birds and setbacks (**M-BI-5**); temporary vegetation impacts will be restored (**M-BI-11**) and noise (**M-BI-18**). Therefore, temporary direct impacts to County Group I or state SSC species would be **less than significant**.

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Long-term or permanent direct impacts to special-status wildlife species were quantified by comparing the Development Footprint with suitable habitat for wildlife species. Implementation of the Land Exchange Alternative would result in the direct loss of habitat, including foraging habitat, for some of the County of San Diego Group 1, Group 2 and SSC species listed below and described in Sections 4.6.1 and 4.6.2 (**Impact W-2**).

MSCP Covered Species observed within the Land Exchange Area, or with a high to moderate potential to occur, include: orangethroat whiptail (WL/County Group 2), Cooper's hawk (WL/County Group 1), burrowing owl (BCC/SSC/County Group 1), golden eagle (BCC/FP, WL/County Group 1), ferruginous hawk (BCC/WL/County Group 1), wandering skipper (County Group 1), Southern California rufous-crowned sparrow (WL/County Group 1), coastal California gnatcatcher (FT/SSC/County Group 1), northern harrier (SSC/County Group 1), Blainville's horned lizard (SSC/County Group 2), and American badger (SSC/County Group 2). Impacts to coastal California gnatcatcher are described under Guideline 4.1.A in Section 6.2.1. Impacts to golden eagle are described under Guideline 4.1.F in Section 6.2.6.

Several sensitive species either observed within the Land Exchange Area or with a high to moderate potential to occur are not classified as Covered Species by the MSCP County Subarea Plan but are addressed by the Otay Ranch RMP. In addition, these species have a relatively low level of sensitivity, and none of these species are state or federally listed. These species include California legless lizard (SSC/County Group 2), San Diego banded gecko (SSC/County Group 1), coast patch-nosed snake (SSC/County Group 2), Bell's sage sparrow (BCC/WL/County Group 1), western spadefoot (SSC/County Group 2), grasshopper sparrow (SSC/County Group 1), loggerhead shrike (BCC/SSC/County Group 1), pallid bat (SSC/County Group 2), Dulzura

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

pocket mouse (SSC/County Group 2), northwestern San Diego pocket mouse (SSC/County Group 2), western mastiff bat (SSC/County Group 2), western red bat (SSC/County Group 2), California leaf-nosed bat (SSC/County Group 2), pocketed free-tailed bat (SSC/County Group 2), big free-tailed bat (SSC/County Group 2), alkali skipper (County Group 1), San Diego black-tailed jackrabbit (SSC/County Group 2), San Diego desert woodrat (SSC/County Group 2), San Diegan tiger whiptail (SSC/County Group 2) and red diamond rattlesnake (SSC/County Group 2). In addition, none of these species are state or federally listed and all have a relatively low level of sensitivity.

Conservation provided through the Otay Ranch RMP and MSCP County Subarea Plan conformance/equivalency would provide mitigation for direct impacts to Covered sensitive species to a less than significant level. Loss of special-status wildlife species (County Group 1 or state SSC animals) including individual amphibians, reptiles, and small mammals from construction-related activities would be considered significant (**Impact W-2**), absent mitigation. Impacts to County-sensitive species not already “covered” under the MSCP would be mitigated through the applicant’s contribution to the MSCP and Otay Ranch RMP Preserve (**M-BI-3**), which provides suitable habitat for these species in a configuration that preserves genetic exchange and species viability. Thus, direct impacts to sensitive wildlife species which are not MSCP Covered Species, with the exception of Quino checkerspot butterfly and Hermes copper butterfly, would be reduced to a less than significant level by virtue of the biological mitigation measures provided by the Otay Ranch RMP. Hermes copper butterfly and Quino checkerspot butterfly are discussed in Section 6.2.1. For those species that *are* covered under the MSCP, conservation provided through the Otay Ranch RMP, the MSCP Plan, and MSCP County of San Diego Subarea Plan conformance/equivalency would provide mitigation for direct impacts to suitable habitat and reduce those impacts to a **less than significant level**.

Mitigation measures will be incorporated into the Land Exchange Alternative to reduce the potential for construction related impacts to occur within and adjacent of the Development Footprint and construction zones through **M-BI-1** (biological monitoring); to protect the Otay Ranch RMP Preserve from unauthorized entry or disturbance, permanent signage and fencing will be placed, as reasonably necessary, around the perimeter of the Preserve through **M-BI-4** (permanent fencing and signage); to ensure that there are no bat species will be impacted by the proposed development through **M-BIO-10** (preconstruction bat surveys) and to ensure that no burrowing owls have migrated into the Development Footprint through **M-BI-13** (burrowing owl preconstruction survey).

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

Impact W-5: Permanent Direct Impacts to Birds under the MBTA

As described in Section 5.3.1.2, if any active nests or the young of nesting special-status bird species are impacted through direct grading, these impacts would be considered significant, absent mitigation, based on the MBTA (Impact W-5). It is recommended that clearing of vegetation occur outside the typical nesting period for most bird species and raptors (i.e., outside the period February 1–August 31 and as early as January 1 for some raptor species) in order to limit impacts to nesting birds and raptors. If clearing is required within the nesting period, a nesting bird survey shall be conducted within 72 hours of Land Exchange Alternative implementation, as described in **M-BI-5** (nesting bird survey). The Land Exchange Alternative could also result in direct impacts to birds during clearing and grubbing of vegetation in preparation for construction. A biological monitor will be required to be on site to flush wildlife from occupied habitat areas immediately prior to brush-clearing and earth-moving activities, thus reducing to potential for direct impacts (**M-BI-1**). With these mitigation measures, impacts to nesting birds and raptors and other sensitive status species would be less than significant. Therefore, impacts to birds under the MBTA would be **less than significant**.

6.2.3 Project Effects Relevant to Guideline 4.1.C (County-Designated Special-Status Species)

6.2.3.1 Special-Status Plant Species (County List C and D Species)

There will be no direct impacts to County List C plant species resulting from implementation of the Land Exchange Alternative. Potential impacts to County List D species are summarized in Table 6-2. Although impacts to these species are not considered significant, suitable habitat for these species would be preserved within the Otay Ranch RMP Preserve (**M-BI-3**).

Table 6-2
Summary of Impacts to County List D Plant Species

Species Scientific Name/ Common Name	Regulatory Status: Federal/ State/CRPR/ MSCP Coverage/ County List	Basis for Impact Evaluation	Significance Determination
<i>Dichondra occidentalis</i> Western dichondria	None None 4.2 Not covered List D	Of the approximately 0.23 acres recorded in the Land Exchange Area, 0.23 acres will be impacted by Land Exchange Alternative development, and <0.01 acres will remain within the Preserve.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide

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

Table 6-2
Summary of Impacts to County List D Plant Species

Species Scientific Name/ Common Name	Regulatory Status: Federal/ State/CRPR/ MSCP Coverage/ County List	Basis for Impact Evaluation	Significance Determination
			preservation goals. In addition, western dichondria is a CRPR 4.2 species, indicating it has a limited distribution and is fairly threatened in California. Given its low sensitivity ranking and that it is known from 33 quads in Southern California (CNPS 2016), impacts to 0.23 acres is not expected to impact the local long-term survival of this species.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None None List 4.2 Not Covered List D	All of the 40 individuals recorded in the Land Exchange Area will be impacted by Land Exchange Alternative development.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide preservation goals. In addition, Palmer's grapplinghook is a CRPR 4.2 species, indicating it has a limited distribution and is fairly threatened in California. Given its low sensitivity ranking and that it is known from 40 quads in Southern California (CNPS 2016), impacts to 40 individuals is not expected to impact the local long-term survival of this species.
<i>Holocarpha virgata</i> ssp. <i>elongata</i> Graceful tarplant	None None List 4.2 Not Covered List D	Of the 15 individuals recorded in the Land Exchange Area, 5 will be impacted by Land Exchange Alternative development.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide preservation goals. In addition, graceful tarplant is a CRPR 4.2 species, indicating it has a limited distribution and is fairly threatened in California. Given its low sensitivity ranking and that it is known from 25 quads in Southern California (CNPS 2016), impacts to only five individuals is not expected to impact the local long-term survival of this species.

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

Table 6-2
Summary of Impacts to County List D Plant Species

Species Scientific Name/ Common Name	Regulatory Status: Federal/ State/CRPR/ MSCP Coverage/ County List	Basis for Impact Evaluation	Significance Determination
<i>Juncus acutus</i> ssp. <i>leopoldii</i> Southwestern spiny rush	None None List 4.2 Not Covered List D	Of the approximately 577 individuals recorded in the Land Exchange Area, up to 35 will be impacted in off-site areas.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the Land Exchange Alternative applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the ranch-wide preservation goals. Southwestern spiny rush is a CRPR 4.2 species, indicating it has a limited distribution and is fairly threatened in California. Given its low sensitivity ranking and that it is known from 27 quads in Southern California (CNPS 2016), impacts to up to 35 individuals is not expected to impact the local long-term survival of this species, especially considering the preservation of 546 individuals in the Otay Ranch RMP Preserve, as well as additional suitable habitat for this species in the Otay Ranch RMP Preserve system on site. Preservation of the 546 individuals within the Preserve through M-BI-3 would contribute to the overall preservation of this species. Therefore, impacts to southwestern spiny rush would be less than significant.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> Golden-rayed pentachaeta	None None List 4.2 Not Covered List D	Of the approximately 13,608 individuals recorded in the Land Exchange Area, 2,341 individuals will be impacted by development.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide preservation goals. In addition, golden-rayed pentachaeta is a CRPR 4.2 species, indicating it has a limited distribution and is fairly threatened in California. Given its low sensitivity ranking and that it is known throughout Southern California, including records within 12 different quads in San Diego

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

Table 6-2
Summary of Impacts to County List D Plant Species

Species Scientific Name/ Common Name	Regulatory Status: Federal/ State/CRPR/ MSCP Coverage/ County List	Basis for Impact Evaluation	Significance Determination
			County from as far north as Camp Pendleton to as far southeast as the Pine Valley area (CNPS 2017; SDNHM 2017), impacts to approximately 2,341 individuals is not expected to impact the local long-term survival of this species.. Therefore, impacts to golden-rayed pentachaeta would be less than significant.
<i>Selaginella cinerascens</i> Ashy spike-moss	None None List 4.1 Not Covered List D	Of the approximately 6.65 acres of occupied area in the Land Exchange Area, 1.61 acres will be impacted by proposed development, and <0.01 acres will be impacted by off-site improvements.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide preservation goals. In addition, ashy spike-moss is a CRPR 4.1 species, indicating it has a limited distribution and is seriously endangered in California. Given its low sensitivity ranking and that it is known from 17 quads in Southern California (CNPS 2016), impacts to 1.51 occupied acres is not expected to impact the local long-term survival of this species, especially considering the preservation of occupied acres in the Otay Ranch RMP Preserve, as well as additional suitable habitat for this species in the RMP Preserve system on site. Preservation of occupied areas within the Otay Ranch RMP Preserve will help to contribute to the overall RMP goals for this species. Therefore, impacts to ashy spike-moss would be less than significant.
<i>Viguiera laciniata</i> San Diego County viguiera	None None List 4.2 Not Covered List D	Of the approximately 18,699 individuals recorded in the Land Exchange Area, 2,428 individuals will be impacted on site, and 2 individuals will be impacted by off-site improvements.	By following the guidelines of the Otay Ranch RMP, and conveying the agreed-upon acreage to the Otay Ranch RMP Preserve through M-BI-3 , the applicant would mitigate impacts to this species to a less than significant level. With these measures, the Land Exchange Alternative contributes to the Ranch-wide

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

Table 6-2
Summary of Impacts to County List D Plant Species

Species Scientific Name/ Common Name	Regulatory Status: Federal/ State/CRPR/ MSCP Coverage/ County List	Basis for Impact Evaluation	Significance Determination
			preservation goals. Preservation of individuals within the Otay Ranch RMP Preserve would contribute to the Ranch-wide goals for this species. Therefore, impacts to San Diego County viguiera would be less than significant.

6.2.3.2 Special-Status Wildlife Species (County Group 2)

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

As summarized in Section 4.6.2, the following County Group 2 special-status wildlife species were incidentally observed either directly or indirectly (i.e., scat, tracks), or have a high potential to occur, within the Land Exchange Area: rosy boa, California horned lark, western bluebird (MSCP Covered), barn owl, mule deer (MSCP Covered), cougar (MSCP Covered), Yuma myotis, Coronado skink, orangethroat whiptail (MSCP Covered), and monarch butterfly. Figures 5-1 through 5-1ff show the impacts in relation to the special-status wildlife observations mapped within the Land Exchange Area. Nineteen additional Group 2 species were observed, or have a high potential to occur, but are analyzed in Section 6.2.2.2 because they are state SSC animals: Blainville's horned lizard, American badger (MSCP Covered), California legless lizard, San Diego banded gecko, coast patch-nosed snake, Bell's sage sparrow, western spadefoot, pallid bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, western mastiff bat, western red bat, California leaf-nosed bat, pocketed free-tailed bat, big free-tailed bat, San Diego black-tailed jackrabbit, San Diego desert woodrat, San Diegan tiger whiptail, and red-diamond rattlesnake.

Loss of Group 2 special-status wildlife species that are not state SSC animals from construction-related activities is considered less than significant due to either their regional widespread presence or the Land Exchange Alternative's potential impacts relative importance to the species. These species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges of which there are an abundance of these species in the region. Regardless of the significance of impacts to Group 2 species, **M-BI-3** ensures that suitable habitat for these species will be conserved within the Otay Ranch RMP Preserve

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

Impact W-5: Permanent Direct Impacts to Birds under the MBTA

See Section 6.2.2.2, Special-Status Wildlife Species (County Group 1 or State SSC).

6.2.4 Project Effects Relevant to Guideline 4.1.D (Arroyo Toad)

As described in Section 3.3.6, an arroyo toad habitat assessment was conducted for the Land Exchange Alternative. No adult mature arroyo toads or arroyo toad tadpoles were observed during arroyo toad habitat assessment surveys. Based on the habitat assessment of the only potential suitable habitat within the Land Exchange Area, the lack of water for requisite time periods, isolation, and lack of species observations, this species has low potential to occur. Therefore, the Land Exchange Alternative will not have an impact on arroyo toad aestivation, foraging, or breeding habitat.

6.2.5 Project Effects Relevant to Guideline 4.1.E (Golden Eagle)

Impact W-3: Permanent Direct Impacts to Golden Eagle

Section 5.3.1.2 contains an analysis of impacts to suitable golden eagle foraging habitat within the Land Exchange Area. The key determinations is whether the Land Exchange Alternative (i) is consistent with the develop impact assumptions of the MSCP Plan, the County of San Diego Subarea Plan, and Otay Ranch RMP, and (ii) complies with the protective conditions set forth in Table 3-5 of the MSCP and in the Section 10 permit. The impact analysis focuses on consistency with the MSCP because golden eagle is a “covered” species under the MSCP Plan and County of San Diego Subarea Plan. As shown in Table 5-5, MSCP-Defined Golden Eagle Suitable Foraging Habitat within the Land Exchange Area, there are 1,261.1 acres of golden eagle foraging habitat within the Land Exchange Area, 585.2 acres of which would be directly impacted (**Impact W-3**).

The Land Exchange Alternative would place 932.9 acres of suitable golden eagle foraging habitat into the Preserve through the exchange with CDFW, boundary adjustment, and conveyance to the Otay Ranch RMP Preserve (Table 5-6), which is consistent with the RMP conveyance obligation and MSCP assumptions (M-BI-3).

Given the information provided above, the Land Exchange Alternative is consistent with the habitat preservation requirements of MSCP Table 3-5 and the County’s Section 10 permit. Therefore, the Land Exchange Alternative’s impacts on golden eagle foraging habitat would be **less than significant**.

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

In addition, surveys and analyses conducted by H.T. Harvey & Associates in 2016 and 2017 indicate that the Land Exchange Alternative would not cause any lethal take of individual golden eagles or nests, would not disturb any active golden eagle nest, and would not place human disturbances within 4,000 feet of any active golden eagle nest (Appendix C). Accordingly, the Land Exchange Alternative is consistent with the requirements set forth in the County's Section 10 permit including those requirements set forth in Table 3-5 of the MSCP Plan and those addressing the establishment of disturbance avoidance areas.. In addition, the Land Exchange Alternative would remain outside of the 3,000 foot buffer of historical nests as recommended in the Otay Ranch Raptor Management Study (Ogden 1992c). Therefore, the Land Exchange Alternative's impacts on golden eagle individuals and nests would be **less than significant**.

6.2.6 Project Effects Relevant to Guideline 4.1.F (Raptor Foraging Habitat)

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Foraging habitat for raptors is present throughout portions of the Land Exchange Area, and development would result in impacts to foraging habitat, as shown in Table 5-4. Therefore, impacts to raptor foraging habitat is considered a significant impact (**Impact W-2**). Impacts to raptor foraging habitat will be mitigated to less than significant through biological monitoring during construction (**M-BI-1**), habitat preservation of existing populations of special-status species, suitable habitat, and special-status vegetation communities (**M-BI-3**), and open space fencing and signage (**M-BI-4**).

6.2.7 Project Effects Relevant to Guideline 4.1.G (Core Wildlife Area)

As discussed in Section 5.5.1.2, the Land Exchange Alternative meets the County's definition of a core wildlife area. The land exchange and boundary adjustment, in conjunction with the Land Exchange Alternative design, retains the functions and values of the corridors identified Baldwin Otay Ranch Wildlife Corridors Studies (Ogden 1992b), the BRCAs identified in the MSCP Plan and also expands the wildlife corridor north of the proposed development. Therefore, the Land Exchange Alternative is not anticipated to impact long-term wildlife movement between the Jamul Mountains and San Miguel Mountain. Thus, Land Exchange Alternative impacts to wildlife movement/habitat linkages would be less than significant.

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

6.2.8 Project Effects Relevant to Guideline 4.1.H (Indirect Impacts)

6.2.8.1 *Special-Status Plant Species*

Impact SP-3: Temporary Indirect Impacts to Special-Status Plant Species

Most of the indirect impacts to vegetation communities described in Section 5.1.2 can also affect sensitive plants. Potential short-term or temporary indirect impacts to special-status plant species in the Land Exchange Area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact SP-3**). Special-status plant species at the edge of the Preserve/development interface, could be impacted by potential temporary indirect impacts such as those previously listed (see descriptions in Section 5.1.2.1). Absent mitigation, these impacts would be considered significant. Mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-14** (SWPPP), **M-BI-15** (erosion and runoff control), and **M-BI-17** (prevention of chemical pollutants) described in Section 6.4 would mitigate these impacts to less than significant levels.

Impact SP-4: Permanent Indirect Impacts to Special-Status Plant Species

Permanent indirect impacts could result from the proximity of the Land Exchange Alternative to special-status plants after construction. Permanent indirect impacts that could affect special-status plant species include generation of fugitive dust, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, and alteration of the natural fire regime (**Impact SP-4**). Each of these potential indirect impacts is discussed in Section 5.1.2.2. Special-status plant species at the edge of the Preserve/development interface, could be impacted by permanent indirect impacts such as those previously listed. Absent mitigation, these impacts would be considered significant. Mitigation measures **M-BI-4** (permanent fencing and signage), **M-BI-14** (SWPPP), **M-BI-15** (erosion and runoff control), **M-BI-16** (prevention of invasive plant species), and **M-BI-17** (prevention of chemical pollutants) described in Section 6.4 would mitigate these impacts to less than significant levels.

6.2.8.2 *Special-Status Wildlife Species*

Impact W-7: Temporary Indirect Impacts to Special-Status Wildlife Species

Short-term, construction-related, or temporary indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from construction activities (**Impact W-7**). Absent mitigation, these impacts would be considered significant. Species

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

potentially affected by such activities include coastal California gnatcatcher and nesting raptors that have the potential to use the eucalyptus trees along Proctor Valley North. Indirect impacts to sensitive bird species may occur if clearing of vegetation is conducted during the nesting season for coastal California gnatcatcher (February 15 through August 15) and raptors (January 15 through July 31). Mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-14** (SWPPP), **M-BI-15** (erosion and runoff control), **M-BI-16** (prevention of invasive plant species), **M-BI-17** (prevention of chemical pollutants), and **M-BI-18** (noise) described in Section 6.4 would mitigate these impacts to less than significant levels.

Impact W-8: Permanent Indirect Impacts to Special-Status Wildlife Species

Potential long-term or permanent indirect impacts to special-status wildlife species include generation of fugitive dust; off-road vehicle use; non-native, invasive plant and animal species; habitat fragmentation; increased human activity; alteration of the natural fire regime; and altered hydrology (**Impact W-8**). Absent mitigation, these impacts would be significant. Mitigation measures **M-BI-4** (permanent fencing and signage), **M-BI-14** (SWPPP), **M-BI-15** (erosion and runoff control), **M-BI-16** (prevention of invasive plant species), **M-BI-18** (noise), **M-BI-19** (fire protection), **M-BI-20** (lighting), and described in Section 6.4 would mitigate these impacts to less than significant levels.

6.2.9 Project Effects Relevant to Guideline 4.1.I (Burrowing Owl)

As described in Section 3.3.4, a burrowing owl habitat assessment and subsequent focused surveys were conducted in the Land Exchange Area. During these surveys, no burrowing owls or sign were observed. In 2015, burrowing owl sign consisting of white wash, feathers, and pellets was observed at one specific location in the central portion of the Village 14 Development Footprint during rare plant surveys (Figures 4-1a through 4-1ff). Suitable habitat within the Land Exchange Area includes 222.4 acres of non-native grassland and open areas of coastal sage scrub (including disturbed) that contain burrows, burrow surrogates, or fossorial mammal dens (Figure 3-3). However, based on the limited observation of burrowing owl sign, and the lack of observations of burrowing owls during focused surveys in 2014, this species likely does not occur regularly within the Land Exchange Area. The closest CNDDB and USFWS records are approximately 3 and 5 miles southwest of the Land Exchange Area (CDFW 2016c; USFWS 2015a). Therefore, direct impacts to occupied burrowing owl habitat are not expected. However, to ensure that no burrowing owls have migrated into the Development Footprint, a preconstruction survey will be conducted (**M-BI-13**). If occupied burrows are detected, the County-approved biologist shall prepare a passive relocation mitigation plan subject to review and approval by the Wildlife Agencies and the County, including any subsequent burrowing owl

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

relocation plans to avoid impacts from construction-related activities. Therefore, impacts to occupied burrowing owl habitat would be less than significant.

6.2.10 Project Effects Relevant to Guideline 4.1.J (Cactus Wren)

There are no cactus scrub patches within the Land Exchange Area to support nesting cactus wren (*Campylorhynchus brunneicapillus*), and none have been observed over the course of numerous wildlife surveys, including coastal California gnatcatcher surveys. There have been species occurrences detected in 1989 and 2000, with the closest occurrence approximately 4.5 to 5.0 miles west of the Land Exchange Area. Additional occurrences are located west and south of the Land Exchange Area (CDFW 2016c). Due to the lack of suitable habitat on site, there would be **no impacts** to occupied cactus wren habitat.

6.2.11 Project Effects Relevant to Guideline 4.1.K (Hermes Copper Butterfly)

In 2015 and 2017, Dudek mapped Hermes copper butterfly habitat in accordance with the County of San Diego Guidelines for Hermes Copper (*Lycaena hermes*) (Attachment B of County of San Diego 2010c). Based on the 2015 and 2017 habitat assessments conducted within Village 14, Planning Areas 16/19 and off-site improvement areas and a surrounding 500-foot buffer (i.e. study area), 59.6 acres of the study area was determined to contain potential habitat and was surveyed (Figures 3-5a and 3-5b, Hermes Copper Survey Area). Four surveys from May to July in both 2015 and 2017 were conducted per the County guidelines. No Hermes copper butterflies were observed during the focused surveys; therefore, the habitat on site is considered suitable but unoccupied. Therefore, the Land Exchange Alternative would not meet the County's significance criteria which describes impacts to "occupied Hermes copper habitat." However, impacts to suitable Hermes copper butterfly habitat are described under Section 6.2.1 and are considered a significant impact.

6.2.12 Project Effects Relevant to Guideline 4.1.L (Sensitive Bird Nesting)

The Land Exchange Alternative contains approximately 7.6 acres of habitat for tree-nesting raptors (eucalyptus woodland, coast live oak woodland, and oak riparian forest). Impacts to the nesting success of tree-nesting raptors (i.e., Cooper's hawk and red-tailed hawk) as a result of habitat removal associated with the Land Exchange Alternative are anticipated. Long-term direct impacts to nesting habitat for Cooper's hawk and red-shouldered hawk are summarized in Table 5-4 and impacts to general vegetation communities are described in Table 5-2. Impacts to the nesting success of tree- and ground-nesting raptors associated with the loss of suitable nesting habitat would be considered significant (**Impact W-2**). The loss of suitable nesting habitat would be mitigated by habitat preservation and management of existing populations of sensitive

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

species, and suitable nesting habitat for wildlife species by providing large areas of diverse habitat types where birds can nest away from short-term construction activities (**M-BI-3**). Temporary indirect impacts to nesting raptors (**Impact W-7**) are discussed in Sections 5.3.2.1 and 6.2.8.2. Potential impacts to burrowing owls, should they be found during preconstruction surveys, are discussed in Section 6.2.9.

Impacts to Golden Eagle Nests within the Vicinity of the Land Exchange Alternative

As stated in Section 4.6.1, data show no nesting activity within the San Miguel Mountain breeding territory since the 2007 Harris Fire destroyed the nest complex associated with this territory. This data was derived from surveys conducted by WRI (2010), USFWS (2014c), and H.T. Harvey & Associates (2015, 2017). In 2014, USFWS installed an artificial nest platform southeast of San Miguel Mountain; a portion of the proposed Otay Ranch RMP/MSCP Preserve is located within 4,000 feet from the nest platform (Appendix C). However, to date, no eagles have nested at the artificial platforms or anywhere close to this distance from the Land Exchange Alternative (Appendix C); therefore, there are no active golden eagle nests within 4,000 feet of the Land Exchange Area. Although there are eagles in the vicinity, these are mostly sub-adults. Therefore, the Land Exchange Alternative would not adversely affect any existing golden eagle nests or viable breeding territory, which is consistent with the MSCP Plan, County Subarea Plan and RMP.

Due to lack of suitable habitat, coastal cactus wren, least Bell's vireo, southwestern willow flycatcher, and light-footed clapper rail (*Rallus longirostris levipes*) are not expected to nest in the Land Exchange Area; therefore, the Land Exchange Alternative; therefore, **no impact** to the nesting success of those species would result.

6.3 Cumulative Impact Analysis

Implementation of the Land Exchange Alternative would contribute to the cumulative loss of biological resources within Otay Ranch and the County of San Diego MSCP Subarea Plan. However, Land Exchange Alternative-related cumulative impacts to species covered under the MSCP, including golden eagle which is discussed below, have already been deemed mitigated; therefore, no additional mitigation for such impacts is required. This is not the case for Land Exchange Alternative impacts to species not covered under the MSCP. These would require specific and additional mitigation to render the Land Exchange Alternative's contribution to the cumulative impact "less than cumulatively considerable." Here, the only affected special-status species not already covered under the MSCP is the Quino checkerspot butterfly and Hermes copper butterfly.

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

6.3.1 Cumulative Analysis for Quino Checkerspot Butterfly

Cumulative impacts for Quino checkerspot butterfly were evaluated by reviewing past, present, and future projects within the MSCP County Subarea Plan that included impacts to the Quino checkerspot butterfly. Projects with proposed Quino checkerspot butterfly impacts include the Otay Tech Center, Otay Mesa Generating Project, Otay Business Park, East Otay Mesa Landfill, Otay Hills Quarry, and Otay Ranch Village 13 Master Planned Community Resort Village (“Village 13”) (Figure 6-2, Cumulative Analysis).

- The Otay Tech Center is a 171-acre project northeast of Otay Mesa Road and State Route 905. This project was required to purchase 5.4 acres of native grassland and 48.6-acre of non-native grassland.
- The Otay Mesa Generating project is a 46-acre site on the east side of Altra Road north of Otay Mesa Road. Mitigation includes purchase of 35.9 acres of Quino checkerspot butterfly habitat.
- The Otay Business Park is a 162-acre site southeast of the intersection of Alta Road and Airway Road. The mitigation required for the Quino checkerspot butterfly was not identified but will likely be required.
- East Otay Mesa Landfill is a 450-acre site in the East Otay Mesa area approximately two miles east of the Siempre Viva Road exit from Interstate 905. Impacts are to 340 acres that were not identified as to habitat type. Mitigation required for the Quino checkerspot butterfly was not identified but will likely be required.
- Otay Hills Quarry is a 210-acre site that includes a 112-acre impact area, of which 99.2 acres is composed of sensitive vegetation communities. Quino checkerspot butterfly is known to be present on the site. The mitigation required for the impacts to Quino checkerspot butterfly was not identified but will likely be required.
- Village 13 includes development within the Proctor Valley Parcel of Otay Ranch. Quino checkerspot butterfly has been recorded within the Village 13 site, and development would impact 16% of observations and 33% of suitable habitat. A total of 483 acres of potential occupied habitat would be impacted and a total of 962 acres of upland habitat would be considered to be occupied is preserved. Mitigation measure BIO-9a of the Village 13 Draft EIR requires an additional 4 acres of occupied habitat be provided through the restoration of suitable habitat within the Village 13 Preserve area. Further, mitigation measure BIO-9b of the Village 13 Draft EIR requires the preparation of a Quino Management/Enhancement Plan (County of San Diego 2015b).

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

- Otay 250 - East Otay Mesa Business Park Specific Plan project proposes to include a mix of residential, commercial, and industrial uses to a portion of the Otay Subregional Plan to accommodate the project. Focused surveys for the site were negative for Quino checkerspot butterfly. The 2016 report concluded “although a medium density population of a Quino larval host plant was identified on-site, no larvae or adults of the Quino Checkerspot were identified during the 2016 protocol survey. Therefore, any proposed future development of the Sunroad Centrum 250 property will have no effect on the endangered Quino Checkerspot Butterfly.”

Construction of the Land Exchange Alternative has the potential to result in direct impacts to Quino checkerspot butterfly. However, the required mitigation measures listed in Section 6.4 would address the direct impacts of the Land Exchange Alternative to Quino checkerspot butterfly and would provide for Quino checkerspot butterfly habitat. Specifically, M-BI-1 through M-BI-4, and M-BI-7 through M-BI-9 would reduce impacts to Quino checkerspot butterfly through biological monitoring and construction fencing to minimize impacts to wildlife species and ensure that there are no impacts outside of the grading limits and habitat preservation. Also, take authorization with appropriate mitigation would be obtained through USFWS, or take authorization would be obtained through the MSCP County Subarea Quino Checkerspot Butterfly Addition. In addition, 683.1 acres of potential habitat for Quino checkerspot butterfly would be conveyed to the Otay Ranch RMP Preserve. Finally, a long-term Quino Checkerspot Butterfly Management/Enhancement Plan would be prepared as part of the Proposed Project. Thus, the Proposed Project would reduce permanent impacts to Quino checkerspot butterfly to less than significant. Thus, the Land Exchange Alternative would result in less than significant impacts to Quino checkerspot butterfly.

For a cumulative impact to Quino checkerspot butterfly to occur, the cumulative projects would have to result in the loss of Quino checkerspot butterfly such that the species becomes more limited in its distribution, population size, or available suitable habitat within the cumulative analysis area. The projects within the biological cumulative analysis study area have the potential to impact Quino checkerspot butterfly due to a similar climate and similar distribution of vegetation communities. This impact is potentially significant.

The Land Exchange Alternative in combination with other projects in the cumulative analysis study area could result in significant impacts to the Quino checkerspot butterfly and its habitat. This impact, if not mitigated, would constitute a cumulatively considerable contribution to cumulative effects on Quino checkerspot butterfly. The Proctor Valley region is not considered a core area for Quino checkerspot butterfly in the Recovery Plan adopted by the USFWS, however the region does contain documented historical sightings and the region is included in the

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

metapopulation structure for the species. Although limited to scattered patches throughout the valley, suitable habitat for the species is present within the Land Exchange Area.

From a metapopulation context, the Proctor Valley region provides suitable habitat for the species to expand into during very good reproductive and flight years. The Otay Ranch RMP Preserve within the Land Exchange Area and additional MSCP and Otay Ranch RMP Preserve designated through the Land Exchange Alternative and boundary adjustment allows for contiguity of suitable habitat and Quino checkerspot butterfly resource areas with adjacent Preserve lands (Figure 6-1). The majority of the Otay Ranch RMP Preserve are composed of open coastal sage scrub that is also contiguous with other sage scrub habitats off site. There have been substantial numbers of Quino checkerspot butterfly documented to the south of the Village 14 Development Footprint, to the east of Otay Reservoir System, and also farther south toward the Otay Mesa area. The Land Exchange Alternative would maintain contiguous habitat with these locations with areas to the north on San Miguel Mountain, provide widespread Quino checkerspot butterfly resource areas, including hilltops, nectaring resources, and provide host plant patches to help maintain metapopulation dynamics for the species. Therefore, the Land Exchange Alternative's conveyance of suitable habitat (**M-BI-3**) as described in Sections 2.4.3.1 and 6.4, contribute to the regional preservation of Quino checkerspot butterfly suitable habitat. These measures would reduce the Land Exchange Alternative's contribution to cumulative impacts on Quino checkerspot butterfly to **less than cumulatively considerable**, as that term is defined and used in CEQA Guidelines Section 15130.

6.3.2 Cumulative Analysis for Hermes Copper Butterfly

Cumulative impacts for Hermes copper butterfly were evaluated by reviewing past, present, and future projects within the MSCP Subarea County Plan that included impacts to the Hermes copper butterfly. The Otay Tech Center, Otay Mesa Generating Project, Otay Business Park, East Otay Mesa Landfill, Otay Hills Quarry, and Village 13 projects occur in the vicinity and were reviewed for impacts to Hermes copper butterfly (Figure 6-2). None of these projects have impacts to Hermes copper butterfly habitat/host plants or individuals.

Construction of the Land Exchange Alternative will result in direct impacts to Hermes copper butterfly habitat. However, the required mitigation measures listed below in Section 6.4 would address the direct impacts of the Land Exchange Alternative to Hermes copper butterfly habitat and provide measures to reduce the long-term effects from the loss of portions of the habitat. Specifically, M-BI-1 through M-BI-4 reduce impacts to Hermes copper butterfly through biological monitoring and construction fencing to minimize impacts to wildlife species and ensure there are no impacts outside of the grading limits; and conservation and long-term

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

protection of suitable habitat. Thus through implementation of the mitigation measures, the Land Exchange Alternative would result in less than significant impacts to Hermes copper butterfly.

For a cumulative impact to Hermes copper butterfly to occur, the cumulative projects would have to result in the loss of Hermes copper butterfly habitat such that the available suitable habitat becomes more limited within the cumulative analysis area. The projects reviewed do not have impacts to Hermes copper butterfly habitat/host plants or individuals.

The Land Exchange Alternative in combination with other projects in the cumulative analysis study area could result in significant impacts to the Hermes copper butterfly habitat. This impact, if not mitigated, would constitute a cumulatively considerable contribution to cumulative effects on Hermes copper butterfly.

The Otay Ranch RMP Preserve within the Land Exchange Area, along with additional Preserve provided through the Land Exchange and boundary adjustment, allows for contiguity of suitable habitat and Hermes copper butterfly resource areas with adjacent Preserve lands (Figure 2-1). The Otay Ranch RMP Preserve contains host plants and suitable habitat for the species that is also contiguous with other suitable habitat, and likely host plants, off site. Therefore, the Land Exchange Alternative's conveyance of suitable habitat and host plants, as described in Section 6.4, contributes to the regional preservation of Hermes copper butterfly habitat. These measures would reduce the Land Exchange Alternative's contribution to cumulative impacts on Hermes copper butterfly to **less than cumulatively considerable**, as that term is defined and used in CEQA Guidelines Section 15130.

6.3.3 Cumulative Analysis for Golden Eagle

As discussed previously, the Land Exchange Alternative is consistent with the MSCP Plan, the County of San Diego Subarea Plan, and Otay Ranch RMP as they relate to golden eagle. The Land Exchange Alternative also complies with conditions relating to golden eagle as set forth in the County's Section 10 permit issued by the USFWS in 1997. Accordingly, the Land Exchange's contribution to cumulative impacts on golden eagle would be **less than cumulatively considerable**. As additional support for this conclusion, the Land Exchange Alternative was also assessed in terms of the MSCP's overall goal of preserving 53% (approximately 139,000 acres) of potential foraging/nesting golden eagle habitat within the MSCP Plan area. The details of that analysis, including all calculations, are provided in Appendix C.

MSCP Defined Golden Eagle Suitable Habitat – Current Preserve

To determine if the Land Exchange Alternative would result in cumulative impacts to golden eagle foraging habitat, Dudek calculated the current amount of golden eagle habitat within the

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

MSCP Preserve (and by virtue the Otay Ranch RMP Preserve) as well as the amount of golden eagle foraging habitat to be contributed to the MSCP Preserve by future developments within the MSCP Plan area. These acreages were used to determine if the contributions to the MSCP Preserve were on track to meet, or exceed, the 53% target (approximately 139,000 acres). As discussed in Section 3.3.5, to determine the amount of golden eagle foraging/nesting habitat currently set aside as MSCP Preserve, the MSCP Plan vegetation mapping was overlaid with current HabiTrak data.

HabitTrak is a toolset is designed to help track habitat lost and conserved over time due to public and private development projects. Appendix C provides the acreages of golden eagle habitat gained and lost within the entire MSCP Plan area as calculated in HabiTrak, both inside and outside of the MHPA Preserve. The MHPA is the area in the MSCP Plan from which the Preserve would be assembled and managed for its biological resources. Since adoption of the MSCP Plan additional lands have been conserved that are located outside the MHPA as it is mapped in the MSCP Plan (1998). As of October 2015, 110,767 acres of golden eagle habitat has been conserved within the MSCP Plan (see Appendix C).

MSCP Defined Golden Eagle Suitable Habitat – Future Preserve

Table 3-5 in the MSCP Plan states that 53% of potential foraging/nesting habitat (coastal sage scrub, chaparral, grassland, and oak woodland) (approximately 139,000 acres) would be conserved. Currently, 90,856 acres of suitable golden eagle habitat are conserved as MSCP Preserve (Appendix C). To meet the 53% goal (approximately 139,000 acres) an additional 49,274 acres must be conserved as MSCP Preserve in the future.

The MSCP Preserve is still in the process of being assembled. Based on the MSCP Preserve boundaries, it is estimated that an additional 64,878 acres of suitable golden eagle habitat is already slated for inclusion in MSCP Preserve. Of those 64,878 acres, 35,356 acres is within the MSCP County of San Diego Subarea Plan area.

It is important to note that several of the Take Authorized Areas (identified for future development in the MSCP Plan and County of San Diego Subarea Plan) located within the County of San Diego Subarea Plan area have been converted entirely to MSCP Preserve. These areas include Hidden Valley Estates, Las Montanas, Otay Village 15, and Daley Ranch. Portions of these areas which provide suitable golden eagle foraging habitat are included in the suitable habitat conserved to date (90,586 acres).

Additional golden eagle habitat anticipated to be added to the MSCP Preserve is estimated to be 64,878 acres. With the estimated additional foraging/nesting habitat, the total golden eagle habitat

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

within the MSCP Plan area is estimated to be 155,734 acres, which represents approximately 59% of potential golden eagle foraging/nesting habitat within the MSCP Plan area.

Taking into consideration the MSCP Preserve gain, as of October 2015, outside the MHPA of 19,941 acres of habitat, the MSCP Preserve with suitable golden eagle habitat is projected to total 175,675 total acres (66% of total suitable habitat). The MSCP Plan is, therefore, projected to exceed the 53% conservation target by approximately 15,600 acres of golden eagle habitat within the original MHPA, and approximately 35,550 acres of golden eagle habitat in total (both within and outside MHPA) (see Appendix C).

With respect to the County of San Diego's Subarea Plan (1997), the Biological Opinion outlined a conservation level of 54% of potential foraging habitat (i.e., 91,397 of 170,416 acres, as identified in the County of San Diego Subarea Plan). Thus, to meet the County of San Diego's Subarea Plan's objective, approximately 91,397 acres of golden eagle foraging habitat must ultimately be brought into the Preserve system. The County of San Diego's Subarea Plan's Preserve assembled, as of October 2015, is 65,615 acres. When added to the remaining County of San Diego Subarea Plan Preserve within the original MHPA (35,356 acres), and MSCP Preserve gains outside the MHPA (18,304 acres), the County of San Diego's Subarea Plan is projected to exceed the 54% goal of 91,107 acres (see Appendix C).

The County of San Diego's Subarea Plan has contributed more suitable golden eagle habitat than any other subarea to the MSCP Preserve, as evidenced by contributing 65,615 acres of the 90,856 acres preserved to date within the MSCP Plan area. In addition, the County of San Diego's Subarea Plan is likely to contribute most of the habitat which may be preserved over and above the 53% (approximately 139,000 acres) MSCP conservation target.

The Land Exchange Alternative would contribute an additional 932.9 acres of suitable foraging habitat to the Otay Ranch RMP Preserve, and by virtue the MSCP Preserve, which is above what was assumed in the Otay Ranch GDP/SRP and therefore, the Land Exchange Alternative's net loss of 596.7 acres of suitable foraging habitat would not result in cumulative impacts to suitable foraging habitat for golden eagle. The Land Exchange Alternative also would not impede the MSCP conservation goal of conserving 53% (approximately 139,000 acres) of the suitable golden eagle foraging/nesting habitat. Thus, the Land Exchange Alternative would make a **less than cumulatively considerable** contribution to cumulative impacts on golden eagle or golden eagle foraging/nesting habitat.

Further, if a participating Otay Ranch project, such as that proposed Land Exchange Alternative, is consistent with the Otay Ranch RMP, the MSCP Plan, and the County of San Diego Subarea Plan, its contribution to cumulative biological impacts is considered less than cumulatively

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

considerable and therefore is **less than significant**. By eliminating development on Planning Areas 16/19 and providing additional preservation of habitat through a boundary adjustment, the Land Exchange Alternative provides more Preserve lands than what were originally designated within Otay Ranch GDP/SRP and is therefore consistent with the Otay Ranch RMP, the MSCP Plan, and the County of San Diego Subarea Plan.