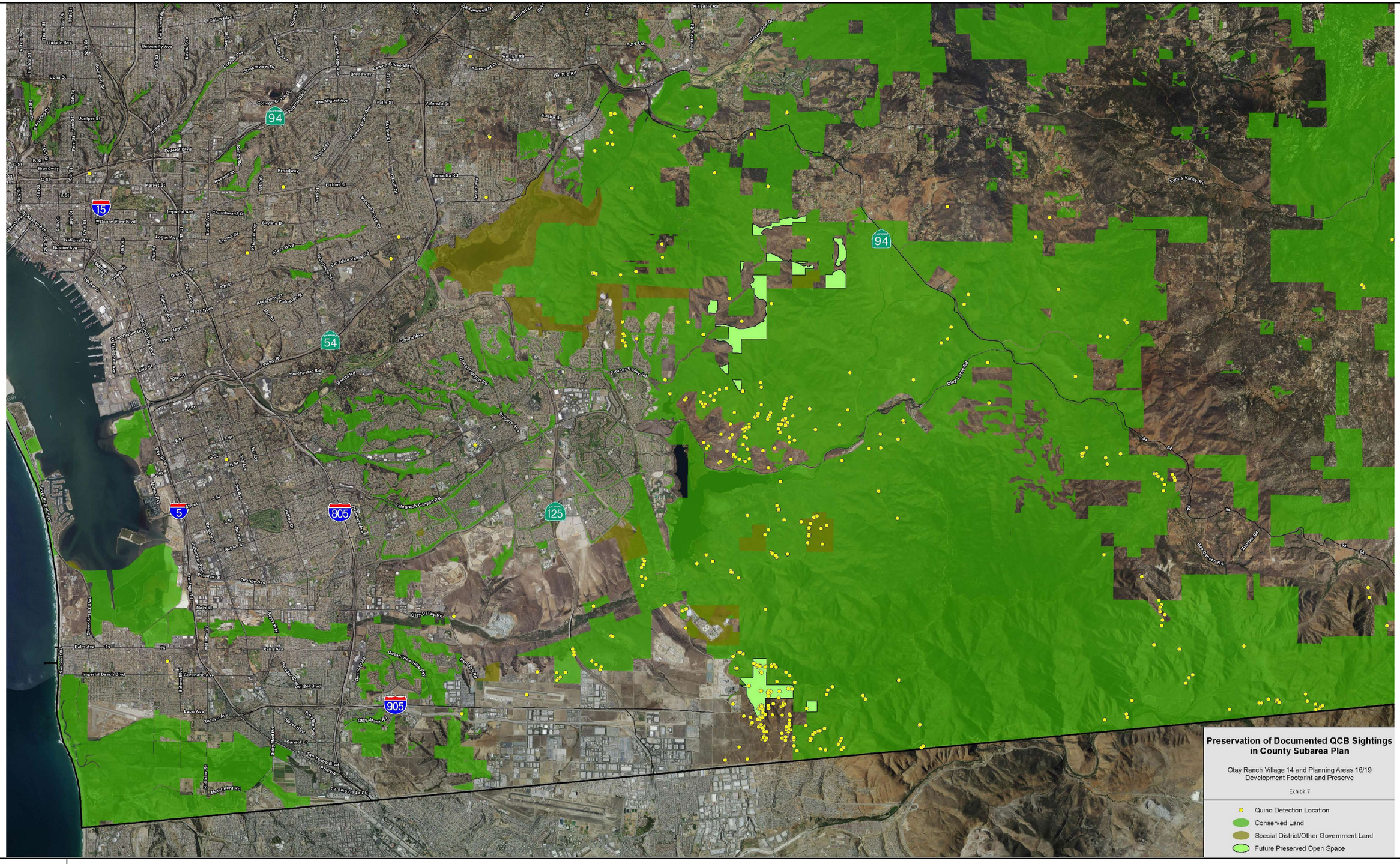

SOURCE: Helix 2017

FIGURE 6-1

Preservation of Documented QCB Sightings in County Subarea Plan

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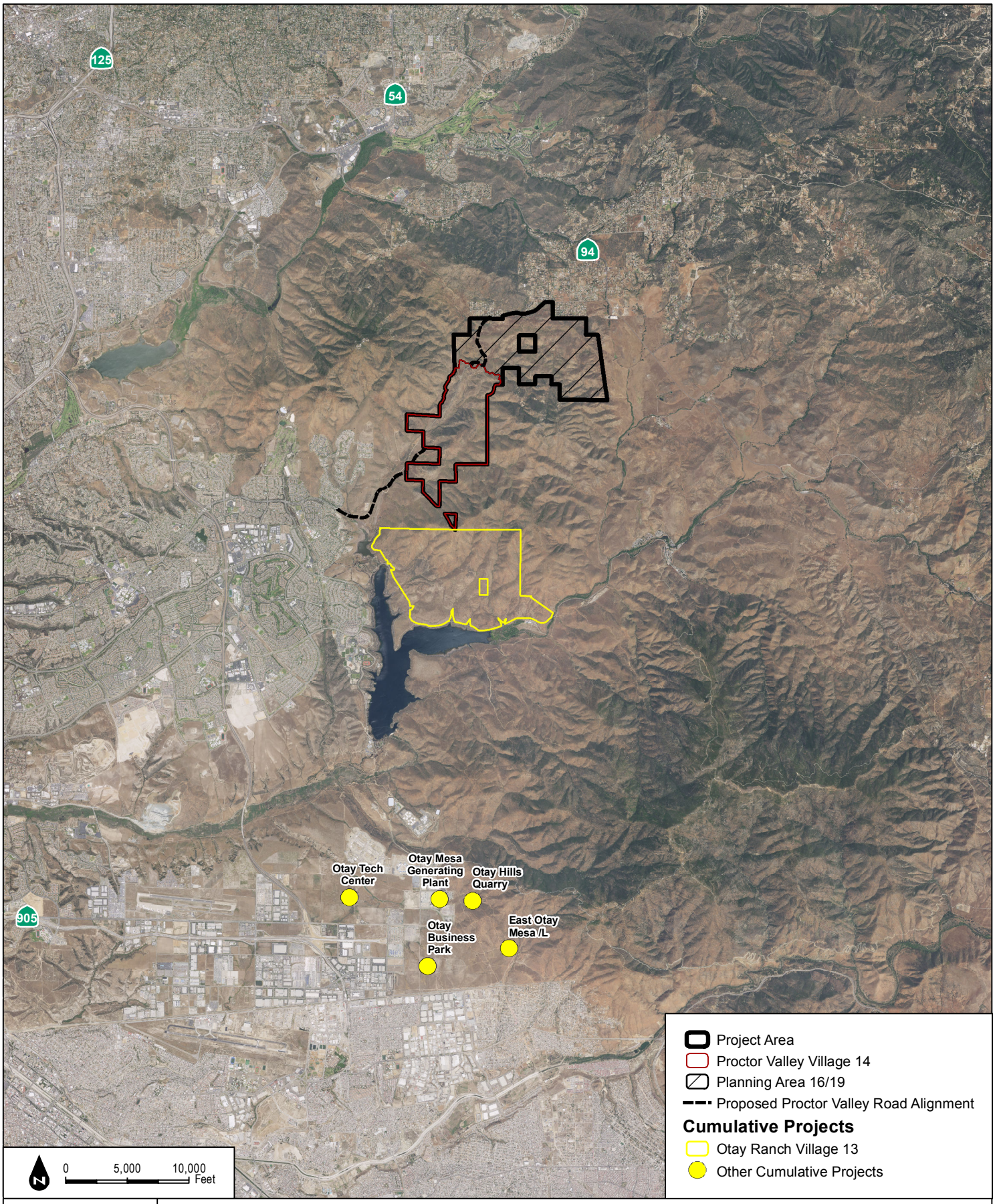

DUDEK

SOURCE: NAIP 2016; Hunsaker 2017

FIGURE 6-2

Cumulative Analysis

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

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6.4 Mitigation Measures and Design Considerations

M-BI-1 **Biological Monitoring.** To prevent disturbance to areas outside the limits of grading, all grading shall be monitored by a biologist. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits for any areas adjacent to the Otay Ranch Resource Management Plan (RMP) Preserve and the off-site areas, the Land Exchange Alternative applicant or its designee shall provide written confirmation that a biological monitor approved by the County of San Diego has been retained and shall be present during clearing, grubbing, and/or grading activities within sensitive resources.

Biological monitoring shall include the following:

a. Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).

b. Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas prior to clearing, grubbing, or grading. Perform weekly inspection of fencing and erosion control measures (daily during rain events) near proposed preservation areas

c. Discuss procedures/training for minimizing harm to or harassment of wildlife encountered during construction with the contractor and other key construction personnel prior to clearing, grubbing, or grading.

d. Supervise and monitor vegetation clearing, grubbing, and grading to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved.

e. Flush special-status species (i.e., avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities.

f. Verify that the construction site is implementing the stormwater pollution prevention plan (SWPPP) best management practices (BMPs). The SWPPP is described in further detail in M-BI-14.

g. Periodically monitor the construction site in accordance with the Land Exchange Alternative's fugitive dust control plan. Periodically monitor the construction site to see that dust is minimized according to the fugitive dust control plan and that manufactured slopes are revegetated as soon as possible.

h. Periodically monitor the construction site to verify that artificial security light fixtures are directed away from open space and are shielded.

i. Oversee the construction site so that cover and/or escape routes for wildlife from excavated areas are provided on a daily basis. All steep trenches, holes, and excavations during construction shall be covered at night with backfill, plywood, metal plates, or other means, and the edges covered with soils and plastic sheeting such that small wildlife cannot access them. Soil piles shall be covered at night to prevent wildlife from burrowing in. The edges of the sheeting shall be weighed down by sandbags. These areas may also be fenced to prevent wildlife from gaining access. Exposed trenches, holes, and excavations shall be inspected twice daily (i.e., each morning and prior to sealing the exposed area) by a qualified biologist to monitor for wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route.

M-BI-2 **Temporary Construction Fencing.** Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, the Land Exchange Alternative applicant or its designee shall install prominently colored fencing and signage wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for areas adjacent to the Preserve and for all off-site facilities constructed within the Preserve. Prior to release of grading and/or improvement bonds, a qualified biologist shall provide evidence to the satisfaction of the Director of Planning and Development Services (or his/her designee) and the Director of Parks and Recreation that work was conducted as authorized under the approved land development permit and associated plans.

M-BI-3 **Habitat Conveyance and Preservation.** Prior to the approval of the first Final Map for the Land Exchange Alternative, the Land Exchange Alternative applicant or its designee shall coordinate with the County of San Diego (County) to establish and annex the Land Exchange Alternative into a County-administered Community Facilities District to pay for the ongoing management and maintenance of the Otay Ranch Preserve. Prior to the recordation of the first Final Map within each Tentative Map, the Land Exchange Alternative applicant shall convey land within the Otay Ranch Preserve to the Otay Ranch Preserve Owner/Manager or its designee at 1.188 acres for each "Developable Acre" impacted at Final Map, as defined by the Resource Management Plan (RMP). At

the standard 1.188 mitigation ratio, the required conveyance for this Land Exchange Alternative is 654.5 acres (550.9 acres × 1.188 = 654.5 acres). (Common uses within the Land Exchange Area include 13.5 acres of public parks, the 8.3-acre elementary school, 23.1 acres of major circulation, the 2.3-acre public safety site, and 0.6 for the water tank access road (47.8 acres total). Total Land Exchange Alternative impacts, less these common areas, is 550.9 acres.) The Land Exchange Alternative shall convey 403.9 acres within Village 14 and 276.3 acres within Planning Areas 16/19 for a total of 680.2 acres of conveyance.

M-BI-4 **Permanent Fencing and Signage.** To protect the Otay Ranch RMP Preserve from entry upon occupancy of any housing units, an open space fence or wall shall be installed along all open space edges where open space is adjacent to residential uses, along internal streets, and as indicated in the Land Exchange Alternative Preserve Edge Plan and Proposed Fencing, Preserve signage, and Fuel Modification Zones. The barrier must be a minimum construction of vertical metal fencing, but may be other suitable construction material, as approved by Department of Planning and Development Services and the Director of Parks and Recreation. To protect the Preserve from entry, informational signs shall be installed, where appropriate, along all open space edges where open space is adjacent to residential uses, along internal streets, and as indicated in the Land Exchange Alternative Preserve Edge Plan. The signs must be corrosion resistant, a minimum of 6 inches by 9 inches in size, on posts not less than 3 feet in height from the ground surface, and state, "Sensitive Environmental Resources Protected by Easement. Entry without express written permission from the County of San Diego is prohibited."

M-BI-5 **Nesting Bird Survey**. To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the nesting season for these species (January 15 through August 31, annually). If, however, removal of habitat on the proposed area of disturbance must occur during the nesting season, the Land Exchange Alternative applicant or its designee shall retain a County-approved biologist to conduct a preconstruction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The preconstruction survey must be conducted within 72 hours prior to the start of construction, and the results must be submitted to the Director of Planning and Development Services for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or

mitigation plan, as deemed appropriate by the County, shall be prepared and include proposed measures to be implemented to ensure that disturbance of nesting activities are avoided. The report or mitigation plan shall be submitted to the County for review and approval and implemented to the satisfaction of the Director of Planning & Development Services (or their designee). The County's Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

M-BI-6 **San Diego Fairy Shrimp Take Authorization.** If take authorization is required for impacts to San Diego fairy the Proposed Project shall demonstrate, to the satisfaction of the Director of Planning & Development Services (or his/her designee) and prior to the issuance of the first grading permit that impacts suitable San Diego fairy shrimp habitat, that it has secured from any necessary take authorization from the USFWS. Take authorization may be obtained through the Section 7 Consultation or Section 10 incidental take permit requirements. Preconstruction surveys for San Diego fairy shrimp will be a condition of this Project if required by the USFWS pursuant to the FESA. If required by the USFWS, the surveys shall be performed prior to the commencement of any clearing, grubbing, or grading activities. The preconstruction surveys will follow protocols set by the USFWS unless the USFWS authorizes a deviation from those protocols, as permitted under Section IX, subdivision a, of the "Survey Guidelines for the Listed Large Branchiopods," issued by USFWS on May 21, 2015. Note this measure will not apply to off-site areas under the jurisdiction of the City of San Diego or the City of Chula Vista. Take for San Diego fairy shrimp is provided by the City of San Diego's Vernal Pool Habitat Conservation Plan and the City of Chula Vista's Subarea Plan.

M-BI-7 **Quino Checkerspot Butterfly Take Authorization.** If take authorization is required for impacts to Quino checkerspot butterfly, the Proposed Project shall demonstrate, to the satisfaction of the Director of Planning & Development Services (or his/her designee) and prior to the issuance of the first grading permit that impacts suitable Quino checkerspot butterfly habitat, that it has secured from any necessary take authorization. Take authorization may be obtained through the Section 7 Consultation or Section 10 incidental take permit requirements. The Applicant will comply with any and all conditions, including preconstruction surveys, that the USFWS may require for take of Quino checkerspot butterfly pursuant to the FESA. Preconstruction survey will be conducted in accordance with USFWS protocols unless the USFWS authorizes a deviation from those protocols.

Take may also be obtained through the County of San Diego Multiple Species Conservation Program Subarea Plan Quino Checkerspot Butterfly Addition, if/when approved. If the Quino checkerspot butterfly is included as an addition to the South County MSCP, and the Applicant seeks take under the Quino Addition, the Applicant will comply with any and all conditions for Quino checkerspot butterfly.

M-BI-68 **Quino Checkerspot Butterfly Habitat Preservation**. The Land Exchange Alternative includes (i) an agreed upon Land Exchange with the State of California and (ii) a Boundary Line Adjustment, both of which would preserve a large block of suitable habitat for Quino checkerspot butterfly. The preservation of these contiguous areas would allow for the uninterrupted movement of Quino checkerspot butterfly throughout the Preserve. This will provide opportunities for this species to expand its populations, if present within the Preserve, and connect to other open space. The Land Exchange Alternative would result in the preservation of 683.1 acres of potential Quino checkerspot butterfly habitat. Therefore the Land Exchange Alternative provides mitigation acreage at a ratio in excess of 1:1 (preservation of 1 acre for every 1 acre of impact) and will adequately mitigate impacts to potential Quino checkerspot butterfly habitat. The preservation of habitat within Village 14, when combined with the large block of coastal sage scrub in Planning Areas 16/19, will adequately mitigate the Land Exchange Alternative's impacts to Quino checkerspot butterfly habitat.

M-BI-9 **Quino Checkerspot Butterfly Management/Enhancement Plan**. Prior to the issuance of the first grading permit that impacts habitat identified as suitable for Quino checkerspot butterfly, the Land Exchange Alternative shall prepare a long-term Quino Checkerspot Butterfly Management/Enhancement Plan. At a minimum that plan shall include focused surveys within suitable habitat in the Otay Ranch RMP Preserve to determine if the species and suitable host plants are present, and determine areas of potential habitat restoration. The plan will be submitted to and receive approval from the Director of the Department of Planning and Development Services (or their designee) and the Director of Parks and Recreation. The Quino Checkerspot Butterfly Management/Enhancement Plan will either be superseded or unnecessary upon completion and adoption of a future MSCP County Subarea Plan Quino Checkerspot Butterfly Addition. Adaptive management techniques shall be included in the plan with contingency methods for changed circumstances. These measures will ensure that the loss of habitat for the species related to the proposed development are adequately offset by measures that will enhance the potential for Quino checkerspot butterfly to

occupy the Preserve, and will provide data that will help the species recover throughout its range.

M-BI-10 **Biological Resource Salvage Plan.** Prior to the issuance of land development permits, including clearing or grubbing and grading permits, for areas with salvageable sensitive biological resources, including variegated dudleya, San Diego marsh-elder (including plant materials and soils/seed bank), the Land Exchange Alternative applicant or its designee shall prepare a Resource Salvage Plan. The Resource Salvage Plan shall be prepared by a biologist approved by the City of Chula Vista, City of San Diego, and County of San Diego, to the satisfaction of the Development Services Directors (or their designee). Mitigation shall be provided as follows:

Species Scientific Name/ Common Name	Impacts	Mitigation Ratio	Mitigation Provided
Dudleya variegata Variegated dudleya	35 individuals	2:1	70 individuals
Iva hayesiana San Diego marsh-elder	29 individuals	1:1	29 individuals

The Resource Salvage Plan shall, at a minimum, evaluate options for plant salvage and relocation, including individual plant salvage, native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Otay Ranch RMP Preserve or restored areas off-site. The Resource Salvage Plan and Restoration Plan shall include incorporation of relocation efforts for variegated dudleya as well as inclusion of San Diego marsh-elder within restoration areas associated with M-BI-11 or other suitable sites. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site, and shall be based on the most reliable methods of successful relocation. The program shall also include a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, success criteria, and any relevant contingency measures to ensure that no-net-loss is achieved. The program shall also be subject to the oversight of the Development Services Director (or her/his designee).

M-BI-11 **Restoration of Temporary Impacts.** The Land Exchange Alternative would result in temporary impacts to sensitive upland and jurisdictional aquatic resources along the off-site portions of Proctor Valley Road. Specifically, there would be 2.8 acres of temporary impacts to City of Chula Vista land, 19.2 acres of temporary impacts to City of San Diego Cornerstone Lands, 0.6 acres of temporary impacts within private ownership and 0.2 within County of San Diego road easements.

Restoration areas may incorporate salvaged materials, such as seed collection and translocation of plant materials, as determined to be appropriate. The biologist shall review the plant materials prior to grading and determine if salvage is warranted. Prior to grading the Land Exchange Alternative, a Conceptual Upland and Wetlands Restoration Plan for impacts within County of San Diego shall be submitted to and receive approval from the Director of the Department of Planning and Development Services (or their designee) and the Director of Parks and Recreation. Prior to grading, a separate Conceptual Upland and Wetlands Restoration Plan will also be prepared and submitted to each city's Development Services Director (or their designee) for their approval.

The Conceptual Upland and Wetlands Restoration Plans shall include the following to ensure the establishment of the restoration objectives: a 24- by 36-inch map showing the restoration areas, site preparation information, type of planting materials (e.g., species ratios, source, size of container), planting program, 80% success criteria, 5-year monitoring plan, and detailed cost estimate. The cost estimate shall include planting, plant materials, irrigation, maintenance, monitoring, and report preparation. The report shall be prepared by a City of Chula Vista-, City of San Diego-, and County of San Diego-approved biologist and a California-licensed landscape architect. The habitat restored pursuant to the plan must be placed within an open space easement dedicated to the appropriate managing entity prior to or immediately following the approval of the plan.

M-BI-12 **Preconstruction Bat Surveys.** No earlier than 30 days prior to the commencement of construction activities for each construction area, a preconstruction survey shall be conducted by a biologist to determine whether active roosts of special-status bats (including maternity roosts, non-maternity roosts, and winter hibernacula) are present in the eucalyptus trees in Village 14 Development Footprint. If roosts are detected during preconstruction surveys, the following avoidance measures will be implemented unless relocation and/or take is authorized under CESA, as required by applicable law.

Maternity Roosts. If an active maternity roost is identified in these areas, the maternity roost will not be directly disturbed, and some construction activities, such as mass-grading or other activities involving heavy equipment, within 300 feet of the maternity roost may be postponed or halted until the maternity roost is vacated and juveniles have fledged, as determined by the project biologist. The rearing season for native bat species in California is approximately April 1 through August 31.

Hibernacula or Non-Maternity Roosts. If non-breeding bat roosts (hibernacula or non-maternity roosts) are found within the disturbance zone, the individuals shall be safely evicted, under the direction of the project biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the project biologist (e.g., installation of one-way doors). If flushing species from tree roosts is required, this shall be done when temperatures are sufficiently warm for bats to exit the roost, because bats do not typically leave their roost daily during winter months. In situations requiring one-way doors, a minimum of 1 week shall pass after doors are installed and temperatures should be sufficiently warm (for winter hibernacula) for bats to exit the roost. This action should allow all bats to leave during the course of 1 week. If a roost needs to be removed and the project biologists determines that the use of one-way doors is not necessary, the roost shall first be disturbed following the direction of the project biologist at dusk to allow bats to escape during the darker hours. Once the bats escape, the roost site shall be removed or the construction disturbance shall occur the next day (i.e., there shall be no less or more than 1 night between initial disturbance and the roost removal).

M-BI-13 **Burrowing Owl Preconstruction Survey.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits, the Land Exchange Alternative applicant or its designee shall retain a County-approved biologist to conduct focused preconstruction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. 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 relocation plans to avoid impacts from construction-related activities.

M-BI-14 **SWPPP.** Prior to issuance of grading permits in portions of the development that are adjacent to the Preserve, the Land Exchange Alternative applicant or its

designee shall develop a stormwater pollution prevention plan (SWPPP). The SWPPP shall be developed, approved, and implemented during construction to control stormwater runoff such that erosion, sedimentation, pollution, and other adverse effects are minimized. The following performance measures contained in the Proctor Valley Preserve Edge Plan shall be implemented to avoid the release of toxic substances associated with construction runoff:

- Sediment shall be retained within the Development Footprint by a system of sediment basins, traps, or other appropriate measures.
- Permanent energy dissipaters shall be included for drainage outlets.
- The BMPs contained in the SWPPP shall include silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydroseeding.

The drainage basins will be designed to provide effective water quality control measures, as outlined in the SWPPP. Design and operational features of the drainage basins will include design features to provide maximum infiltration, maximum detention time for settling of fine particles; maximize the distance between basin inlets and outlets to reduce velocities; and establish maintenance schedules for periodic removal of sedimentation, excessive vegetation and debris.

M-BI-15 **Erosion and Runoff Control.** During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. This will protect sensitive vegetation from being inundated with sediment-laden runoff.

Dewatering shall be conducted in accordance with standard regulations of RWQCB. A National Pollutant Discharge Elimination System permit, issued by RWQCB to discharge water from dewatering activities, shall be required prior to start of construction. This will minimize erosion, siltation, and pollution within sensitive communities.

Design of drainage facilities shall incorporate long-term control of pollutants and stormwater flow to minimize pollution and hydrologic changes. An Urban Runoff Plan and operational BMPs shall be approved by the San Diego County Department of Planning and Development Services prior to construction.

M-BI-16 **Prevention of Invasive Plant Species.** A County-approved plant list, as described in the Preserve Edge Plan, will be used for areas immediately adjacent to the Preserve. All slopes immediately adjacent to the Preserve shall be planted

with native species that reflect the adjacent native habitat. A hydroseed mix that incorporates native species, is appropriate to the area, and is without invasive species shall be used for slope stabilization in transitional areas. Per the Preserve Edge Plan, only County approved vegetation would be planted in streetscapes, or within 100 foot "edge" between development and the Otay Ranch RMP Preserve.

The Planning and Development Services Landscape Architect shall require that all final landscape plans comply with the following: (1) no invasive plant species as included on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory for the Land Exchange Alternative region shall be included, and (2) the plant palette shall be composed of native species that do not require high irrigation rates. The project biologist shall periodically check landscape products for compliance with this requirement.

M-BI-17 **Prevention of Chemical Pollutants.** Weed control treatments shall include all legally permitted chemical, manual, and mechanical methods applied with the authorization of the San Diego County agriculture commissioner. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Adviser and implemented by a licensed applicator. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the San Diego County agriculture commissioner. The timing of the weed control treatment shall be determined for each plant species in consultation with the Pest Control Adviser, the San Diego County agriculture commissioner, and the Cal-IPC with the goal of controlling populations before they start producing seeds. A manual weeding program shall be implemented on any manufactured slope adjacent to the Otay Ranch RMP Preserve to control weeds that are likely to be encouraged by irrigation within the 100-foot Preserve edge/fuel modification zone. Weed control efforts should occur quarterly or as needed, to prevent weeds on the manufactured slopes from moving into the adjacent Preserve. Either the homeowner's association or County's landscape monitoring firm will be responsible to check the irrigated slopes during plant establishment to verify that excessive runoff does not occur and that any weed infestations are controlled.

During Land Exchange Alternative operation, all recreational areas that use chemicals or animal by-products, such as manure, that are potentially toxic or impactive to sensitive habitats or plants shall incorporate BMPs on-site to reduce impacts caused by the application and/or drainage of such materials into the Otay Ranch RMP Preserve.

M-BI-18 **Noise.** Uses in or adjacent to the Otay Ranch RMP Preserve which are not reduced by the Preserve edge, shall be designed to minimize potential noise impacts to surrounding wildlife species by constructing berms or walls adjacent to commercial areas and any other uses, such as community parks, that may introduce noises that could impact or interfere with wildlife utilization of the Otay Ranch RMP Preserve.

Construction-related activities that are excessively noisy (i.e., clearing, grading, grubbing, or blasting) adjacent to breeding/nesting areas must incorporate noise-reduction measures (described below) or be curtailed during the breeding/nesting season of sensitive bird species.

There shall be no construction-related activities allowed during the breeding season of migratory birds or raptors (January 15 through August 31) or coastal California gnatcatcher (February 15 through August 31). The Director of Planning and Development Services may waive this condition, through written concurrence from the USFWS and the CDFW (i.e., Wildlife Agencies), provided that no nesting or breeding birds are present within 300 feet of the construction activities (500 feet for raptors) based on a preconstruction survey.

If construction-related activities that are excessively noisy (i.e., clearing, grading, grubbing or blasting) occur during the period of February 15 through August 31, a County-approved biologist shall conduct preconstruction surveys in suitable nesting habitat adjacent to the construction area to determine the location of any active nests in the area. If the habitat is suitable for raptors, the survey area shall extend to 500 feet from the impact area and if the habitat is suitable only for nesting by non-listed and non-raptor avifauna, the survey area shall extend 50 to 300 feet from the impact area, depending on the habitat type. The survey shall begin not more than 3 days prior to the beginning of construction activities. If nesting birds are detected by the biologist, the following buffers would be established: (1) no work within 50 feet of a non-listed and non-raptor avifauna nest; (2) no work within 300 feet of a federally or state-listed species, such as coastal California gnatcatcher; and (3) no work within 500 feet of a raptor nest. The buffer will be flagged in the field and mapped on the construction plans. To the extent possible, the non-construction buffer zones will be avoided until the nesting cycle is complete. However, it may be reasonable for the County to reduce these buffer widths depending on specific conditions (e.g., the width and type of screening vegetation) or the existing ambient level of activity (e.g., existing level of human activity within the buffer distance). If construction-related

activities must take place within these buffer widths, the Land Exchange Alternative applicant or its designee shall contact the County to determine how to best minimize impacts to nesting birds.

Specific to coastal California gnatcatcher and nesting raptors, construction-related noise levels in coastal California gnatcatcher-occupied habitat within 500 feet of construction activity would not exceed 60 A-weighted decibels equivalent continuous sound level (dBA L_{eq}) or preconstruction ambient noise levels, whichever is greater. Construction within 500 feet of occupied habitat would occur outside of the breeding season if possible. If necessary, construction activities during the breeding season would be managed to limit noise levels in occupied habitat within 500 feet of the Land Exchange Alternative or noise attenuation measures, such as temporary sound walls, would be implemented to reduce noise levels below 60 dBA L_{eq} or below existing ambient noise levels, whichever is greater.

M-BI-19 **Fire Protection.** To minimize the potential exposure of the Land Exchange Area to fire hazards, all features of the *Fire Protection Plan for the Land Exchange Alternative* shall be implemented in conjunction with development of the Land Exchange Alternative.

M-BI-20 **Lighting.** Lighting of all developed areas adjacent to the Otay Ranch RMP Preserve shall be directed away from the Preserve, wherever feasible and consistent with public safety. Where necessary, development shall provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting. Consideration shall be given to the use of low-pressure sodium lighting.

6.5 Conclusions

6.5.1 Sensitive Plant Species

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

The significant short-term direct impacts to known occurrences of County List A and B plant species, or those with a moderate to high potential to occur, at the edge of the construction and Preserve interface, will be reduced to less than significant through implementation of mitigation measures **M-BI-1** (biological monitoring), and **M-BI-2** (temporary construction fencing). This mitigation, which requires biological monitoring, and temporary construction fencing, will prevent and document that construction will not cause additional impacts beyond the Development Footprint.

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

The significant long-term direct impacts to plant species described in Section 6.2.2.1 and Table 6-1 will be reduced to less than significant through implementation of mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), and **M-BI-3** (habitat conveyance and preservation). **M-BI-1** (biological monitoring) and **M-BI-2** (temporary construction fencing) will reduce impacts outside of the Development Footprint from occurring. **M-BI-3** (habitat conveyance and preservation) will reduce impacts through on-site preservation of suitable habitat. Additionally, **M-BI-10** (biological resource salvage plan), which provides a resource salvage plan to mitigate for impacts to San Diego marsh-elder, a non-Covered Species within off-site areas, variegated dudleya, a narrow endemic species will reduce impacts to less than significant.

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

The significant short-term indirect impacts to special-status plant species listed under **Impact SP-3** above will be reduced to less than significant through implementation of 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), which require biological monitoring during construction, temporary construction fencing, implementation of SWPPP, erosion and runoff protection, and prevention of chemical pollutants. These impacts have been reduced to less than significant because these measures will prevent and document that construction will not cause additional impacts beyond the Development Footprint, erosion, siltation, and pollution risk will be minimized, and the risk of chemical pollutants being released will be minimized.

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

The significant long-term indirect impacts to special-status plant species listed under Impact SP-4 above will be reduced to less than significant through implementation of mitigation measures **M-BI-4** (permanent fencing and signage), **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-19** (fire protection), which provide for permanent fencing and signage, erosion and runoff protection, prevention of invasive species, prevention of chemical pollutants, and fire protection. Potential indirect impacts have been reduced to less than significant because human activity has been restricted to the Development Footprint, erosion, siltation, and pollution risk will be minimized, release of exotic plants and animals will be minimized, the risk of chemical pollutants being released has been minimized, and implementation of a Fire Protection Plan.

6.5.2 Sensitive Wildlife Species

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

Potential significant short-term direct impacts to sensitive wildlife species will be reduced to less than significant through implementation of mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-5** (nesting bird survey), **M-BI-18** (noise), and **M-BI-20** (lighting). These impacts have been reduced to less than significant because the measures will minimize the potential for loss of individuals.

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

As stated in Section 6.2.1, the Land Exchange Alternative would have direct impacts to habitat supporting several special-status wildlife species; including suitable habitat for golden eagle, Quino checkerspot butterfly and Hermes copper butterfly (see **Impacts W-3, W-4,** and **W-6**). Conservation provided through the Otay Ranch RMP, MSCP Plan, and MSCP County of San Diego Subarea Plan conformance/equivalency would provide mitigation for direct impacts to MSCP Covered Species to a less than significant level (**M-BI-3**, habitat conveyance and preservation). These species include Cooper's hawk, burrowing owl, Southern California rufous-crowned sparrow, coastal California gnatcatcher, western bluebird, northern harrier, Blainville's horned lizard, mule deer, cougar, and American badger. There are several sensitive species that were observed within the Land Exchange Area and are not MSCP Covered Species; these species are addressed in the Otay Ranch RMP, which includes Ranch-wide preservation goals. These species include western spadefoot, grasshopper sparrow, California horned lark, loggerhead shrike, San Diego black-tailed jackrabbit, San Diego desert woodrat, rosy boa, San Diegan tiger whiptail, and red diamond rattlesnake.

The Land Exchange Alternative's contribution 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 non-covered sensitive wildlife 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. Impacts to other County-sensitive wildlife, including red-shouldered hawk, turkey vulture, and barn owl, would be less than significant due to the avoidance, minimal impacts, or lack of use of the site for nesting (i.e., turkey vulture). In addition, implementation of **M-BI-1** (biological monitoring), **M-BI-4** (permanent fencing and signage), **M-BI-5** (nesting bird survey), and **M-BI-12** (preconstruction bat surveys) would ensure that unauthorized impacts to habitat for special-status wildlife are avoided.

Due to the presence of a burrowing owl sign within the Land Exchange Area, and the potential for this species to inhabit the Land Exchange Area prior to construction, a burrowing owl preconstruction survey will be required to ensure there are no direct impacts to burrowing owl (**M-BI-13**, burrowing owl preconstruction survey).

Impact W-3: Permanent Direct Impacts to Golden Eagle

The Land Exchanges Alternative's individual impacts on golden eagle, including golden eagle nests and foraging habitat, would be less than significant, largely because golden eagle is a Covered Species under the MSCP and the Land Exchange Alternative is consistent with the MSCP Plan, County of San Diego Subarea Plan, and Otay Ranch RMP. In addition, the analysis discussed in Section 6.3.3 supports the conclusion that the Land Exchange Alternative would not make a cumulatively considerable contribution to any significant cumulative impact on golden eagle or its nesting or foraging habitat. According to HabiTrak data, habitat gains featuring potential golden eagle foraging/nesting habitatwithin the MSCP Preserve to date (110,797 acres) represent approximately 80% of the conservation target of 53% (approximately 139,000 acres). It is estimated that when fully assembled, the MSCP Preserve would conserve potential golden eagle foraging habitat exceeding 139,000 acres total. In addition, the Land Exchange Alternative would contribute golden eagle foraging habitat through the conveyance requirements of the Otay Ranch RMP.

The Land Exchange Alternative would preserve foraging/nesting habitat for golden eagle (**M-BI-3**, habitat conveyance and preservation). Additionally, **M-BI-4** (permanent fencing and signage) mitigates for potential long-term impacts by deterring unauthorized human activity within the Otay Ranch RMP Preserve.

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

The Land Exchange Alternative has the potential to affect Quino checkerspot butterfly suitable habitat. Such impacts are considered significant. Because this species is federally listed as endangered, any take of the butterfly or any destruction or adverse modification of its habitat would be addressed either by compliance with a future MSCP County of San Diego Subarea Plan Quino Checkerspot Butterfly Addition or a Section 7 Consultation or Section 10 incidental take permit if needed.

For purposes of CEQA compliance, the Land Exchange Alternative's significant impacts on Quino checkerspot butterfly would be mitigated to less than significant levels through implementation of **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).

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

This impact will be mitigated through avoidance by preconstruction surveys for nesting birds (**M-BI-5**) and biological monitoring (**M-BI-1**).

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

The Land Exchange Alternative would result in impact to 15.0 acres of habitat that could support future Hermes copper butterfly populations. This impact would be mitigated to less than significant through implementation of mitigation measures **M-BI-3** (habitat conveyance and preservation), and **M-BI-4** (permanent fencing and signage).

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

The significant short-term indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources will be reduced to less than significant through implementation of mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction and 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), because the mitigation, will prevent construction impacts beyond the Development Footprint.

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

The significant long-term indirect impacts to special-status wildlife species will be reduced to less than significant through implementation of 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), and **M-BI-20** (lighting).

7 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

7.1 Guidelines for the Determination of Significance

The County of San Diego's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a) 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 following guidelines for the determination of significance come directly from the County's guidelines (County of San Diego 2010a).

Guideline 4.2: The project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG [now CDFW] or USFWS.

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 of County of San Diego 2010a, excluding those without a mitigation ratio) on or off the project area. This Guideline would not apply to small remnant pockets of habitat that have a demonstrated limited biological value. No de minimus standard is specified under which an impact would not be significant; however, minor impacts to native or naturalized habitat that is providing essentially no biological habitat or wildlife value can be evaluated on a case-by-case basis to determine whether the projected impact may be less than significant. For example, an impact to native or naturalized upland habitat under 0.1 acres in an existing urban setting may be considered less than significant (depending on a number of factors). An evaluation of this type should consider factors including, but not limited to, type of habitat, relative presence or potential for sensitive species, relative connectivity with other native habitat, wildlife species and activity in the project vicinity, and current degree of urbanization and edge effects in project vicinity. Just because a particular habitat area is isolated, for example, does not necessarily mean that impacts to the area would not be significant (e.g., vernal pools). An area that is disturbed or partially developed may provide a habitat "island" that would serve as a functional refuge area "stepping stone" or "archipelago" for migratory species.

B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by U.S. Army Corps of Engineers (ACOE),

California Department of Fish and Game (CDFG), and the County of San Diego: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historically low groundwater levels.

D. 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 habitats 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 by the best available science to adversely affect the functioning of sensitive habitats.

E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands. If the project is subject to the Resource Protection Ordinance (RPO), buffers of a minimum of 50 feet and a maximum of 200 feet to protect wetlands are required based on the best available science available to the County at the time of adoption of the ordinance. The following examples provide guidance on determining appropriate buffer widths:

- A 50-foot wetland buffer would be appropriate for lower quality RPO-wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive, and slopes do not exceed 25%.
- A wetland buffer of 50 to 100 feet is appropriate for moderate- to high-quality RPO-wetlands that support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25%) with highly erosive soils. Within the 50- to 100-foot range, wider buffers are appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that could not be mitigated.

- Wetland buffers of 100 to 200 feet are appropriate for RPO-wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species, or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
- Buffering of greater than 200 feet may be necessary when an RPO-wetland is within a regional corridor or supports significant populations of wetland-associated sensitive species and lies adjacent to land use(s) that could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO-wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

7.2 Analysis of Project Effects

7.2.1 Project Effects Relevant to Guideline 4.2.A (Impacts to Sensitive Habitat)

Impact V-1: Temporary Direct Impacts to Sensitive Vegetation Communities within the Land Exchange Area (off-sites improvements only)

Short-term, construction-related, or temporary direct impacts to special-status upland vegetation communities within off-site improvement areas would primarily result from construction activities. Off-site temporary impacts occur in conjunction with improvements to and the realignment of Proctor Valley Road. In addition, clearing, trampling, or grading of special-status vegetation communities outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to special-status vegetation communities on site would be significant, absent mitigation (**Impact V-1**). However, these short-term, direct impacts will be mitigated to less than significant levels through implementation of Mitigation Measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts) and **M-BI-21** (federal and state agency permits; See Guideline 4.2.B). Specific details regarding temporary impacts and mitigation for off-site impacts within each off-site location is described in detail in Impact V-3 through V-7.

Impact V-2: Permanent Direct Impacts to Sensitive Vegetation Communities within the Village 14 Development Footprint (excluding offsite improvements)

Permanent direct impacts to sensitive riparian and upland vegetation communities are analyzed in Section 5.1.1.2. The Land Exchange Alternative would cause the direct loss of 601.7 acres of

vegetation communities within Village 14 (Table 5-2). All such impacts would occur within the Village 14 Development Footprint. The remaining 403.9 acres on Village 14 would be preserved.

Development would result in impacts to six sensitive vegetation communities (Table 5-2) and is considered significant. Specifically, impacts to granitic chamise chaparral (including disturbed), coastal sage scrub (including disturbed), non-native grassland, and cismontane alkali marsh, are considered significant impacts absent mitigation (**Impact V-2**).

Mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-3** (habitat conveyance and preservation), **M-BI-4** (permanent fencing and signage) and **M-BI-21** (federal and state agency permits; see Guideline 4.2.B), described in Section 6.4 would mitigate for this impact through habitat preservation, construction-related measures to reduce impacts outside of the Development Footprint, permanent fencing and signage where needed to protect the MSCP, and agency permitting for impacts to jurisdictional resources. With implementation of these measures, potentially significant impacts to sensitive vegetation communities within Village 14 would be mitigated to less than significant levels.

Impacts V-3, V-4, V-5, V-6, and V-7: Off-Site Permanent and Temporary Direct Impacts to Sensitive Vegetation Communities

As discussed in Section 5.1.1.2, off-site permanent impacts to granitic chamise chaparral, southern mixed chaparral, coastal sage scrub (including disturbed), coastal sage scrub – *Baccharis* dominated, non-native grassland, mulefat scrub, freshwater marsh, cismontane alkali marsh (including disturbed), and unvegetated stream channel total approximately 19 acres of permanent impacts and are considered significant absent mitigation (**Impacts V-3** through **V-7**, described below). Table 5-1a summarizes the impacts to these off-site areas based on the vegetation community and the location of the off-site impact.

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

Portions of Proctor Valley Road South and Central (including infrastructure facilities) are located within the City of San Diego MSCP Cornerstone Lands and the City of San Diego Multiple Habitat Planning Area (MHPA). Absent mitigation, this impact would be considered significant (**Impact V-3**). Mitigation requirements for permanent impacts are presented in Table 7-1. These impacts would be mitigated by **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts), and **M-BI-21** (federal and state agency permits) described in Section 7.4 would mitigate for this impact through construction-related measures to reduce impacts outside of the off-site improvement areas, and restoration of temporarily impacted areas. Temporary impacts (19.2 acres) to Cornerstone Lands would be

revegetated with native vegetation. Temporary impacts to the existing road would be restored as part of the revegetation plan, and as such would result in the conversion of 1.1 acres of existing road to native vegetation. In addition, realignment of Proctor Valley Road South would result in 4.7 acres of the existing road to be abandoned in place. With implementation of these measures, potentially significant impacts to sensitive vegetation communities within the City of San Diego Cornerstone Lands would be mitigated to less than significant levels.

Table 7-1
Mitigation Requirements for Permanent Impacts to City of San Diego (Cornerstone Lands)

Mitigation Criteria	Vegetation Community	Impacts (Acres)	Mitigation Ratio	Required Mitigation (Acres)[a]
Upland	Coastal sage scrub (including disturbed)	7.7	1:1 (preservation inside MHPA)	7.7
	Diegan coastal sage scrub – *Baccharis*-dominated (including disturbed)	0.4	1:1 (preservation inside MHPA)	0.4
	Non-native grassland	3.7	1:1 (preservation inside MHPA)	3.7
	Southern mixed chaparral	1.7	1:1 (preservation inside MHPA)	1.7
Wetlands	Mulefat scrub	0.1	2:1	0.2
	Unvegetated channel	0.02	2:1	0.04
No mitigation required	Developed	0.4	None	0
	Disturbed habitat	0.7	None	0
Total Impacts Requiring Mitigation				**13.62**
Total Required Mitigation				**13.74**

Notes: MHPA = Multiple Habitat Planning Area.

[a] The mitigation ratio and required mitigation is based on the assumption that the mitigation lands would be located inside the MHPA. Mitigation occurring outside the MHPA would be required at a higher ratio.

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). This roadway is included in the City's MSCP. As described in Section 2.7, this portion of Proctor Valley Road is defined as the "easternmost reach" (from Neighborhood 9 in Rolling Hills Ranch Project, which is a Covered Project, with hardlines in the City of Chula Vista's 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 this agreement, no further mitigation for impacts to non-wetland is required; therefore, impacts to these communities are not considered significant. However, this document still

analyzes impacts to jurisdictional aquatic resources (see Guideline 4.2.B) and temporary impacts to sensitive habitat (2.1 acres).

This off-site area is located within a 100% conservation area outside the Otay Ranch boundary and is subject to Facilities Siting Criteria as described in Section 2.8.1. The off-site impact areas within City of Chula Vista are consistent with City Planning Guidelines and do not conflict with the goals or standards of the City's Subarea Plan since the impacts are for the road improvements. However, compliance with the City's facilities siting is required to ensure that the road improvements have been located in the least environmentally sensitive areas and that impacts to the Preserve have been minimized to the maximum extent practical (see Section 10.2.5). Mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing) and **M-BI-11** (restoration of temporary impacts) described in Section 6.4 would mitigate for this impact through construction-related measures to reduce impacts outside of the off-site improvement areas and restoration of temporarily impacted areas. Temporary impacts to vegetation within the City Chula Vista would be revegetated with native vegetation (**M-BI-11**). Temporary impacts to the existing road would be restored as part of the revegetation plan, and as such would result in the conversion of 0.4 acres of existing road to native vegetation. In addition, **M-BI-21** (federal and state agency permits) would be required for impacts to jurisdictional resources (see Guideline 4.2.B). With implementation of these measures, potentially significant impacts to sensitive vegetation communities within the City of Chula Vista would be mitigated to less than significant levels.

Impact V-5: Off-Site Private Lands

As shown in Table 5-1a, direct impacts to off-site private lands as a result of from road grading associated with Proctor Valley Road South. This would result in a total 0.4 acres of temporary impacts and 0.2 acres of permanent impacts to Diegan coastal sage scrub, and 0.1 acres of permanent impacts to non-native grassland, both of which are sensitive upland communities. Off-site impacts to private lands subject to the County of San Diego MSCP associated with construction of Proctor Valley road would not require mitigation for permanent impacts since Proctor Valley Road is a planned facility within the County of San Diego MSCP Subarea Plan. However, incidental direct impacts to sensitive vegetation resulting from construction of Proctor Valley Road would be considered **significant** (**Impact V-5**). **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), and **M-BI-11** (restoration of temporary impacts) described in Section 2.4.6 would mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint and restoration of temporary impacts. With implementation of these measures, potentially significant impacts to sensitive vegetation communities within off-site private lands would be mitigated to less than significant levels.

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) (**Impact V-6**). Of this, 3.2 acres of permanent impacts are sensitive upland communities, including a small area of cismontane alkali marsh (0.1 acres). An additional 0.9 acres of permanent impacts may be required for the widening of Proctor Valley Road North (Table 5-1b). Direct impacts to off-site road development in Otay Ranch lands are subject to the Otay Ranch RMP, which states that these facilities are an allowable use in the Preserve, would not require mitigation for permanent impacts; therefore, permanent impacts are not considered significant. However, temporary direct impacts to sensitive vegetation resulting from construction of Proctor Valley Road **would be considered significant** (9.1 acres of uplands and 0.5 acres of wetlands). The significant short-term, direct impacts to off-site lands within the Otay Ranch will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing) which will mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint and **M-BI-11** (restoration of temporary impacts).

Impact V-7: County of San Diego Road Easement

As shown in Table 5-1a, direct impacts to County roads as a result of the improvements to Proctor Valley Road North would total 0.3 acres (0.2 acres temporary and 0.1 acres permanent). Of this total impact area, less than 0.1 acres would be to sensitive upland communities (coastal sage scrub and grassland), resulting in significant temporary and permanent impacts (**Impact V-7**). **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-3** (habitat conveyance and preservation), and **M-BI-11** (restoration of temporary impacts) described in Section 6.4 would mitigate for this impact through construction-related measures to reduce impacts outside of the off-site improvement areas and through restoration of temporarily impacted areas. Temporary impacts to vegetation within the off-site County lands would be mitigated through revegetation with native plant species (**M-BI-11**). Permanent impacts to sensitive vegetation communities totaling 0.1 acres would be mitigated through additional conveyance to the Otay Ranch RMP Preserve at a 1:1 ratio (**M-BI-3**). With implementation of these measures, potentially significant impacts to sensitive upland vegetation communities within off-site County lands would be mitigated to less than significant levels.

7.2.2 Project Effects Relevant to Guideline 4.2.B (Impacts to Wetlands and Riparian Habitats)

Any adverse change to jurisdictional aquatic resources (i.e., wetlands and riparian habitat under the jurisdiction of ACOE, RWQCB and CDFW) resulting from construction activities, as analyzed in Section 5.4, would be significant. Within the Land Exchange Area, ACOE, RWQCB, and CDFW jurisdictions follow the same boundaries.

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 aquatic resources would primarily result from construction activities. Clearing, trampling, or grading of jurisdictional aquatic resources outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to jurisdictional aquatic resources within the off-site improvements would be significant, absent mitigation (**Impact V-10**). However, these short-term, direct impacts will be mitigated to a level below significance through implementation of mitigation measures **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts) and **M-BI-21** (federal and state agency permits). These mitigation measures will prevent and document that construction will not cause additional impacts outside of the Development Footprint, ensure restoration of 0.18 acres of unvegetated stream channel and 1.03 acres of wetlands/riparian habitat and requires permit from the appropriate federal and state agencies to impact jurisdictional resources. The above mitigation measures are described in Sections 6.4 and 7.4.

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 Village 14 (**Impact V-11**) (Table 5-8; Figures 4-1 through 4-1ff). As shown in Table 5-7, 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-11**). Approximately 0.17 acres of this permanent impact would occur in the City of San Diego MSCP Cornerstone lands. 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. Impacts associated with Proctor Valley Road North would impact 0.09 acres of wetland/riparian habitat. 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. Permanent impacts

to 1.74 acres of jurisdictional aquatic resources within the Land Exchange Area are considered significant absent mitigation. Mitigation measure **M-BI-21** (federal and state agency permits) described in Section 7.4 would mitigate for this impact through coordination with federal and state agencies to obtain the appropriate permits and approval for impacts to jurisdictional aquatic resources. This impact will be mitigated to less than significant through implementation of the above mitigation measures.

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

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**). Absent mitigation, these potential short-term or temporary indirect impacts to jurisdictional aquatic resources 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 a less than significant level. These measures will mitigate for these impacts through construction-related measures to reduce impacts outside of the Development Footprint, SWPPP implementation, erosion and runoff control, and chemical spill prevention.

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 Alternative 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**). Absent mitigation, these potential long-term or permanent indirect impacts to jurisdictional resources 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 for these impacts to a less than significant level. These measures will mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint, SWPPP implementation, erosion and runoff control, release of exotic plants and animals will be minimized, and chemical spill prevention.

7.2.3 Project Effects Relevant to Guideline 4.2.C (Impacts to Groundwater Table)

The Land Exchange Alternative would obtain its water supply from the Otay Water District, which, in turn, obtains water from surface reservoirs or other imported water sources. The Land Exchange Alternative does not propose use of groundwater for any purpose. Therefore, the Land Exchange Alternative would not impact groundwater or ground-water dependent habitat.

7.2.4 Project Effects Relevant to Guideline 4.2.D (Indirect Impacts to Sensitive Habitat)

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 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-8**). Absent mitigation, potential short-term indirect impacts to special-status vegetation communities that occur within the Land Exchange Area would be 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), **M-BI-17** (prevention of chemical pollutants) and **M-BI-21** (federal and state agency permits) described in Sections 6.4 and 7.4 would mitigate these impacts to less than significant. The measures which would mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint, SWPPP implementation, erosion and runoff control, chemical spill prevention, and federal and state agency permits

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 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 human activity, and alteration of the natural fire regime. Absent mitigation, potential long-term indirect impacts to special-status vegetation communities that occur within the Land Exchange Area 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-17** (prevention of chemical pollutants) and **M-BI-19** (fire protection) described in Section 6.4 would mitigate for these impacts. These measures would will mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint, SWPPP implementation, erosion and runoff control, release of exotic plants and animals will be minimized, implementation of a Fire Protection Plan, and chemical spill prevention.

7.2.5 Project Effects Relevant to Guideline 4.2.E (RPO Buffers)

As stated in Section 2.3.5, Otay Ranch Resource Management Plan Phase I and II, the RMP is intended to be the functional equivalent of the County of San Diego Resource Protection Ordinance (RPO; County of San Diego 2007) for Otay Ranch and is a component of the MSCP Subarea Plan. As such, subsequent Otay Ranch projects are exempt from the provisions of the RPO if determined to be consistent with a Comprehensive Resource Management and Protection Program, such as the Otay Ranch RMP. Since the Land Exchange Alternative is consistent with the Otay Ranch RMP, it is not subject to the RPO and the required wetland buffers. Therefore, **no impacts** would result.

7.3 Cumulative Impact Analysis

The loss of riparian habitat and sensitive natural communities would be mitigated through the conveyance of 1.188 acres of Otay Ranch RMP Preserve land to the POM for each developed acre impacted, minus the common use areas not subject to conveyance[15], along with habitat restoration of temporarily impacted areas. This conveyance program coupled with the restoration of temporary impacts will adequately conserve a greater or equal amount of riparian habitat and other sensitive natural communities within Otay Ranch. Implementation of these measures and consistency with the required planning documents mitigates cumulative biological impacts to riparian habitats and other sensitive natural communities to a **less than cumulatively considerable** level.

7.4 Mitigation Measures and Design Considerations

Mitigation for short-term and long-term direct impacts to special-status vegetation communities include mitigation measures **M-BI-1** (biological monitoring to avoid unintentional construction impacts), **M-BI-2** (temporary construction fencing), **M-BI-3** (habitat conveyance and

[15] Common uses within the Land Exchange Area include 13.5 acres of public parks, the 8.3-acre elementary school, 23.1 acres of major circulation, and the 2.3-acre public safety site. In addition, Planning Area 16 contains Total project impacts, less these common areas, is 47.2 acres.

preservation), **M-BI-4** (permanent fencing and signage), and **M-BI-11** (restoration of temporary impacts), which are described in Section 6.4. The Land Exchange Alternative would result in on-site and off-site impacts to jurisdictional aquatic resources (i.e., wetlands and non-wetland waters under the jurisdiction of ACOE and RWQCB, and streambeds and associated riparian habitat under the jurisdiction of CDFW). Implementation of **M-BI-21**, described below, would ensure no net loss of jurisdictional aquatic resources within the watershed, and would reduce direct impacts to jurisdictional waters to a less than significant level.

As described in Section 5.1.1.2, the Land Exchange Alternative would impact approximately 33.8 acres of City of San Diego Cornerstone Lands, 13.6 acres of which would be permanent impacts to sensitive vegetation communities (Table 7-1, **Impact V-3**). As described in Section 5.1.1.2, the Land Exchange Alternative would involve approximately 2.8 acres of temporary impacts and 2.6 acres of permanent impacts to sensitive vegetation communities within the City of Chula Vista (Table 7-1, **Impact V-4**). Since impacts to these resources are subject to the facilities' siting criteria, no additional mitigation is required.

Mitigation for short-term (**Impact V-6**) and long-term (**Impact V-7**) indirect impacts to special-status vegetation communities both on- and off-site are analyzed in Section 5.1.2. The Land Exchange Alternative would require **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts), **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-21** (federal and state agency permits). These impacts will be mitigated to less than significant through implementation of the above mitigation measures.

M-BI-21 **Federal and State Agency Permits.** Prior to impacts occurring to U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional aquatic resources, the Land Exchange Alternative applicant or its designee shall obtain the following permits: ACOE 404 permit, RWQCB 401 Water Quality Certification, and CDFW Fish and Game Code 1600 Streambed Alteration Agreement. The overall ratio of wetland/riparian habitat mitigation shall be 3:1. Impacts shall be mitigated at a 1:1 impact-to-creation ratio by either the creation, or purchase of credits for the creation, of jurisdictional habitat of similar functions and values. An addition 2:1 enhancement-to-impact ratio shall be required to meet the overall 3:1 impact-to-mitigation ratio for impacts to wetlands/riparian habitat. Impacts to unvegetated and ephemeral stream channels shall occur at a 1:1 impact-to-creation ratio. A suitable mitigation site shall be selected and approved by the resource agencies during the permitting process.

Prior to issuance of land development permits, including clearing, grubbing, and grading permits that impact jurisdictional aquatic resources, the Land Exchange Alternative applicant or its designee shall prepare a Wetlands Mitigation and Monitoring Plan to the satisfaction of the Director of Planning and Development Services (or his/her designee), the Director of Parks and Recreation, ACOE, RWQCB, and CDFW. The Conceptual Wetlands Mitigation and Monitoring Plan shall, at a minimum, prescribe site preparation, planting, irrigation, and a 5-year maintenance and monitoring program with qualitative and quantitative evaluation of the revegetation effort and specific criteria to determine successful revegetation.

7.5 Conclusions

Impact V-1: Temporary Direct Impacts to Sensitive Vegetation Communities within the Land Exchange Area

The significant temporary, direct impacts to special-status vegetation communities will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts) and **M-BI-21** (federal and state agency permits; See Guideline 4.2.B), which will mitigate for this impact through construction-related measures to reduce impacts outside of the off-site improvement areas, restoration of temporary impacted areas and agency permitting for impacts to jurisdictional aquatic resources.

Impact V-2: On-Site Permanent Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities

The significant permanent, direct impact to 578.0 acres of special-status vegetation communities within Village 14 (Table 5-2) will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-3** (habitat conveyance and preservation), **M-BI-4** (permanent fencing and signage), and **M-BI-21** (federal and state agency permits; See Guideline 4.2.B). These measures would mitigate for this impact through habitat preservation, construction-related measures to reduce impacts outside of the Development Footprint, permanent fencing and signage where needed to protect Preserve lands, and restoration of temporarily impacted areas.

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

The significant permanent and temporary, direct impact to City of San Diego MSCP Cornerstone Lands will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary

impacts), and **M-BI-21** (federal and state agency permits)will mitigate for this impact through construction-related measures to reduce impacts outside of the off-site improvement areas, and restoration of temporarily impacted areas. The significant permanent and temporary, direct impacts to Cornerstone Lands will be reduced to less than significant through implementation of these mitigation measures.

Impact V-4: Lands Within City of Chula Vista

The significant temporary, direct impacts to lands in the City of Chula Vista as a result of the improvements to Proctor Valley Road will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts) and **M-BI-21** (federal and state agency permits) which would mitigate for this impact through construction-related measures to reduce impacts outside of the off-site improvement areas, restoration of temporarily impacted areas and agency permits. The significant temporary, direct impacts to vegetation within the City Chula Vista will be reduced to less than significant through implementation of these mitigation measures.

Impact V-5: Off-site Private Lands

Direct impacts to off-site road development in private lands are subject to the County of San Diego MSCP. Construction associated with the development of Proctor Valley road would not require mitigation for permanent impacts since Proctor Valley Road is a planned facility within the County of San Diego MSCP Subarea Plan. However, incidental direct impacts to sensitive vegetation resulting from construction of Proctor Valley Road would be considered **significant** (**Impact V-5**). **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), and **M-BI-11** (restoration of temporary impacts). With implementation of these measures, potentially significant impacts to sensitive vegetation communities within off-site private lands would be mitigated to less than significant levels.

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

Direct impacts to off-site road development in Otay Ranch RMP Preserve lands are subject to the Otay Ranch RMP, which states that these facilities are an allowable use in the Preserve, and would not require mitigation for permanent impacts; therefore, permanent impacts are not considered significant. However, incidental direct impacts to sensitive vegetation resulting from construction of Proctor Valley Road would be considered significant. The significant short-term, direct impacts to off-site lands within the Otay Ranch will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring) and **M-BI-2** (temporary construction

fencing) which will mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint and **M-BI-11** (restoration of temporary impacts).

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

Impacts to off-site road development within the County of San Diego would be mitigated through **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-3** (habitat conveyance and preservation) and **M-BI-11** (restoration of temporary impacts). Implementation of these mitigation measures would reduce impacts to sensitive upland habitats to a less than significant level.

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

The significant short-term, temporary direct impacts to jurisdictional aquatic resources will be reduced to less than significant through implementation of **M-BI-1** (biological monitoring), and **M-BI-2** (temporary construction fencing), **M-BI-11** (restoration of temporary impacts) and **M-BI-21** (federal and state agency permits).

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

The significant long-term, permanent direct impacts to 1.40 acres of ephemeral non-wetland waters/streambed and 0.34 acres of wetlands/riparian habitat will be reduced to less than significant through implementation of **M-BI-21** (federal and state agency permits) which will mitigate for this impact through coordination with federal and state agencies to obtain the appropriate permits and approval for impacts to jurisdictional aquatic resources.

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

The significant short-term, temporary indirect impacts to jurisdictional resources will be reduced to less than significant through implementation of **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).

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

The long-term, permanent indirect impacts to jurisdictional aquatic resources will be reduced to less than significant through implementation of **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).

8 JURISDICTIONAL WETLANDS AND WATERWAYS

8.1 Guidelines for the Determination of Significance

The County of San Diego's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) 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 following guideline for the determination of significance comes directly from the County's guidelines (County of San Diego 2010a) and refers only to federally protected wetlands.

Guideline 4.3: The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means.

The significance of impacts shall be determined under Guideline 4.2B, C, and E.

8.2 Analysis of Project Effects

8.2.1 Project Effects Relevant to Guideline 4.3 (Federally Protected Wetlands)

As described in Section 7.2, Analysis of Project Effects, the Land Exchange Alternative would have both temporary and permanent direct impacts to jurisdictional aquatic resources, including wetlands as defined by Section 404 of the Clean Water Act (**Impacts V-10 through V-13**). Direct impacts will occur both within the Development Footprint and in off-site areas (Tables 5-7 and 5-8). **Impacts V-10 through V-13** will be mitigated through **M-BIO-1** (biological monitoring), **M-BIO-2** (temporary construction fencing), **M-BIO-4** (permanent fencing and signage), **M-BIO-9** (restoration of temporary impacts), **M-BIO-12** (SWPPP), **M-BIO-13** (erosion and runoff), **M-BIO-14** (prevention of invasive species), **M-BIO-15** (prevention of chemical pollutants) and **M-BIO-19** (federal and state agency permits).

8.3 Cumulative Impact Analysis

See Section 7.3.

8.4 Mitigation Measures and Design Considerations

Mitigation measures applicable to Guideline 4.3 are discussed in Section 7.4.

8.5 Conclusions

Refer to Section 7.5 for the conclusions of **Impacts V-10 through V-13**.

9 WILDLIFE MOVEMENT AND NURSERY SITES

9.1 Guidelines for the Determination of Significance

The County of San Diego's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) 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 following guidelines for the determination of significance come directly from the County's guidelines (County of San Diego 2010a).

Guideline 4.4: The project would interfere substantially with the movement of a native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

A. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage. For example, if the project proposes roads that cross corridors, fencing that channels wildlife to underpasses located away from interchanges will be required to provide connectivity. Wildlife underpasses shall have dimensions (length, width, height) suitable for passage by the affected species based on a site-specific analysis of wildlife movement. Another example is increased traffic on an existing road that would result in significant road-kill or interference with an existing wildlife corridor/linkage.

C. The project would create artificial wildlife corridors that do not follow natural movement patterns; for example, constraining a corridor for mule deer or mountain lion to an area that is not well-vegetated or that runs along the face of a steep slope instead of through the valley or along the ridgeline.

D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels likely to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width,

removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path. The adequacy of the width shall be based on the biological information for the target species, the quality of the habitat within and adjacent to the corridor, topography, and adjacent land uses. Where there is limited topographic relief, the corridor should be well-vegetated and adequately buffered from adjacent development. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages.

F. The project does not maintain adequate visual continuity (i.e., long lines of site) within wildlife corridors or linkage. For example, development (such as homes or structures) sited along the rim of a corridor could present a visual barrier to wildlife movement. For stepping-stone/archipelago corridors, a project does not maintain visual continuity between habitat patches.

9.2 Analysis of Project Effects

9.2.1 Project Effects Relevant to Guideline 4.4.A (Wildlife Access to Key Habitat Areas)

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

Short-term, construction-related, or temporary direct impacts to potential foraging and breeding habitat for species that use the Land Exchange Area (e.g., special-status birds) would primarily result from construction activities. Clearing, trampling, or grading of foraging and breeding habitat outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to foraging and breeding habitat on site would be significant, absent mitigation (**Impact WLC-1**). However, these short-term, direct impacts would be mitigated to a level below significance through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), and **M-BI-11** (restoration of temporary impacts) which would mitigate for this impact through construction-related measures to reduce impacts outside of the Development Footprint and restoration of temporarily impacted areas.

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 the BRCAs identified in the MSCP Plan while expanding the wildlife corridor north of the proposed development. In addition, where necessary and as required by Policy 4.1 of the Otay Ranch RMP, two wildlife crossings have been designed and would be constructed along Proctor Valley Road South and Central (Figures 5-3, 5-4, and 5-5). 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.

9.2.2 Project Effects Relevant to Guideline 4.4.B (Connectivity Between Blocks of Habitat)

The Land Exchange Alternative functions as part of a large habitat block. As explained in previous sections, the land exchange and boundary adjustment, in conjunction with the Land Exchange Alternative design, would retain the functions and values of the corridors identified within the Ogden study (1992b) and the BRCAs identified in the MSCP Plan while expanding the wildlife corridor north of the proposed development. Therefore, the proposed development would have **less than significant direct impacts** on habitat linkages or movement corridors. In addition, where necessary and as required by Policy 4.1 of the Otay Ranch RMP, wildlife crossings have been designed and would be constructed along Proctor Valley Road (Figures 5-3, 5-4 and 5-5).

9.2.3 Project Effects Relevant to Guideline 4.4.C (Creation of Unnatural Movement Corridors)

One of the objectives of the Otay Ranch RMP (City of Chula Vista and County of San Diego 1993b) 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 Studies, which are recognized as the foundational wildlife corridor studies for the area, describe the Proctor Valley area as providing a northerly wildlife movement corridor between San Miguel Mountain and the Jamul Mountains. The Development Footprint associated with the Land Exchange Alternative is located primarily within the originally designated developable lands as identified in the Otay Ranch RMP and would therefore retain the functions and values of the corridors identified in Baldwin Otay Ranch Wildlife Corridors Studies (Ogden 1992b) and the BRCAs identified in the MSCP Plan. As a part of the Land Exchange Alternative, development has been concentrated within Village 14 and eliminated from Planning Areas 16/19. While wildlife currently has the ability to use the all habitats within the Land Exchange Area, there are identified corridors within the Land Exchange Area (Figure 4-5). The Development Footprint does not encroach upon the Proctor Valley regional wildlife corridor (R1) and maintains the natural landscape surrounding the corridor. Where R1 crosses over Proctor Valley Road, a wildlife crossing is provided (see Section 5.5.1.2). The local corridor L3 will remain un-impacted by the Land Exchange Alternative and in fact would expand upon the corridor. By maintaining the natural corridors (R1, L4 and L3), the Land Exchange Alternative supports

natural movement patterns and does not create artificial movement corridors. Therefore, impacts to wildlife movement/habitat linkages would be **less than significant**.

9.2.4 Project Effects Relevant to Guideline 4.4.D (Noise and Lighting Impacts to Wildlife Corridors)

The Land Exchange Alternative functions as part of a large habitat block and as explained in previous sections, the Land Exchange Alternative would **less than significant** direct impacts on habitat linkages or movement corridors but would instead expand upon and preserve existing linkages and corridors. However, wildlife movement through these corridors may be indirectly impacted by adjacent development (**Impacts WLC-2** and **WLC-3**).

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

Potential short-term indirect impacts to habitat connectivity and wildlife corridors could result from increased human activity, lighting, and noise during construction and occupancy (**Impact WLC-2**). Absent mitigation, these potential short-term indirect impacts to habitat connectivity and wildlife corridors would be considered significant. **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-18** (noise), and **M-BI-20** (lighting) would mitigate for these impacts to less than significant through construction-related measures to reduce impacts outside of the Development Footprint, direct lighting away from the Otay Ranch RMP Preserve, and minimize potential noise impacts. These mitigation measures are fully described in Section 6.4.

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**). Absent mitigation, these potential long-term indirect impacts to habitat connectivity and wildlife corridors would be considered significant. **M-BI-3** (habitat conveyance and preservation), **M-BI-4** (permanent fencing and signage), **M-BI-18** (noise), and **M-BI-20** (lighting) described in Section 6.4 would mitigate these impacts to less than significant.

9.2.5 Project Effects Relevant to Guideline 4.4.E (Width of Wildlife Corridors)

As stated in Section 4.8 the Land Exchange Alternative includes an Otay Ranch RMP and MSCP Preserve boundary adjustment and a land exchange which will create a larger and more continuous Preserve. The Otay Ranch Wildlife Corridor Study (Ogden 1992b) identified a number of local and regional wildlife corridors within the Proctor Valley Parcel (Figure 4-5).

The L4 corridor follows the Proctor Valley drainage and would be avoided by the Land Exchange Alternative. Proctor Valley Road currently crosses L4 in the south. This corridor connects to L3 in the northern portion, which then passes south through the Bureau of Land Management (BLM) land in the eastern portion.

The regional corridor (R1), which links the Jamul Mountains and San Miguel Mountain, would be preserved and would remain protected from development with the proposed boundary adjustment. Development has been situated so that the corridor maintains a 1,300-foot width at the narrowest point (Figure 4-5). Exhibits 4 and 5 of the boundary adjustment document (Appendix A) show the addition of Preserve lands along both the eastern and western boundaries of the Land Exchange Alternative development and surrounding R1. The additional Preserve land given as part of the boundary adjustment would supplement the function of the R1 corridor by providing a wider and more northern route that was not included in the Ogden (1992b) study. Adding Preserve land in this area strengthens the R1 corridor by providing more lands that connect to the USFWS, CDFW, and City of San Diego Cornerstone open space (Figure 4-4), and increasing the buffer between development and Preserve.

The proposed boundary adjustment, specifically within Planning Areas 16/19, fills in the gaps left by the land exchange. Adding 117.8 acres of existing Limited Development Area (LDA) and the applicant's remaining developable acreages in Planning Areas 16/19 to the Preserve allows for a larger, cohesive Preserve/open space design. As a result of the boundary adjustment, this land would become part of the Otay Ranch RMP Preserve, increasing the L3 corridor to 3,600 feet wide, thus providing protected and unimpeded movement and dispersal function, as well as live-in habitat. After the proposed exchange and concurrent boundary adjustment, there would be one Development Area on the southwestern side of the Otay Ranch Village 14, while the majority of Planning Area 16 and all of Planning Area 19 would be either Otay Ranch RMP Preserve land or managed by the state. Post-exchange and boundary adjustment, these blocks of land would become less divided, and corridors for species to travel throughout the open space would no longer face development obstructions. The Preserve design, which includes Otay Ranch RMP Preserve and state Preserve, is vastly improved with this exchange and boundary adjustment.

The current Otay Ranch General Development Plan/Otay Subregional Plan, Volume II (Otay Ranch GDP/SRP) development layout is highly fragmented, creating a habitat archipelago (Exhibit 3 of the Executive Summary, Appendix A). The proposed land exchange would substantially improve the configuration of conserved habitat by adding to and widening the wildlife movement corridor within current preserved lands in Planning Areas 16/19. When combined with the existing Otay Ranch RMP and state Preserve lands in Planning Area 16, the parcel to be transferred to the state creates a more unified, contiguous, connected Preserve with less exposure to edge effects. Exhibits 3 and 4 of the Executive Summary to the functional

equivalency analyses for the land exchange and boundary adjust demonstrate the benefits. The post-land-exchange layout would consist of large, contiguous connected blocks of Preserve lands (Exhibit 4 of the Executive Summary, Appendix A).

The Land Exchange Alternative increases the originally designated hardline Preserve lands as identified in the Otay Ranch RMP, which relied upon the findings of the Ogden wildlife corridor study, and would therefore retain the functions and values of the corridors identified in the wildlife corridor study (Ogden 1992) and the BRCAs identified in the MSCP Plan.

9.2.6 Project Effects Relevant to Guideline 4.4.F (Visual Continuity within Wildlife Corridors)

The land exchange, coupled with the boundary adjustment, would result in a larger more unified Preserve/open space area with less edge effect from the surrounding development areas. By reconfiguring a single Preserve that is adjacent to additional off-site open space and Preserve lands owned by the state, BLM, the federal government, and others, the fragmentation of essential habitat would be reduced or avoided. When coupled with the boundary adjustment, the land exchange would eliminate approximately 13.3 miles of edge effects and the Otay Ranch GDP/SRP Development Footprint would be reduced by 31%. In addition, the exchange would result in less direct connection with developed areas, providing for less human intrusion (e.g., lighting, trash, noise, and others) into the habitat and significantly reduces edge effect.

The Development Footprint for the Land Exchange Alternative is located primarily within the originally designated Otay Ranch RMP Preserve as identified in the RMP and would therefore retain the functions and values of the corridors identified in wildlife corridor study (Ogden 1992b) and the BRCAs identified in the Final MSCP (MSCP 1998). While the Land Exchange Alternative does include a boundary adjustment for development within the Otay Ranch RMP Preserve, the boundary adjustment also removes areas designated for development in Village 14 and Planning Areas 16/19 resulting in more Otay Ranch RMP Preserve than what was originally designated. As described in the Otay Ranch RMP, revisions to the originally designated development for Proctor Valley were specifically made, as a part of the original Otay Ranch GDP/SRP approval in 1993, for purposes of resolving general Preserve design and wildlife habitat connectivity issues (see Section 5.5.1.2). Therefore, with compliance to the Otay Ranch RMP and MSCP, the Land Exchange Alternative's impacts on visual continuity would be less than significant.

9.3 Cumulative Impact Analysis

The Land Exchange Alternative is anticipated to have a less than cumulatively considerable effect on wildlife corridors or habitat linkages. As described throughout this section, the Land

Exchange Alternative functions as a part of a large habitat block. The land exchange and boundary adjustment, in conjunction with the Land Exchange Alternative design, not only retains the functions and values of the corridors identified in Baldwin Otay Ranch Wildlife Corridors Studies (Ogden 1992b) and the BRCAs identified in the MSCP Plan, but expands the wildlife corridor north of the proposed development. Additionally, in conformance with the Otay Ranch GDP/SRP and Otay Ranch RMP, wildlife crossings would be provided under Proctor Valley Road South and Central to allow for wildlife movement. The Land Exchange Alternative is anticipated to provide a more viable Preserve with less edge effects, create wide corridors for wildlife movement, and contribute to the existing Preserve lands surrounding the Land Exchange Alternative. Therefore, the Land Exchange Alternative is anticipated to have a less than cumulatively considerable impact on wildlife movement between the Jamul Mountains and San Miguel Mountain.

9.4 Mitigation Measures and Design Considerations

The Land Exchange Alternative will not have direct impacts to habitat linkages and movement corridors therefore, there is no mitigation required. However, wildlife movement through these corridors may be indirectly impacted by adjacent development (**Impacts WLC-2** and **WLC-3**). Mitigation for short-term, direct impacts to potential foraging and breeding habitat includes **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-4** (permanent fencing and signage), **M-BI-18** (noise), and **M-BI-20** (lighting).

9.5 Conclusions

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

The significant short-term direct impacts to potential foraging and breeding/nesting habitat for species that use the Land Exchange Alternative (e.g., special-status birds) will be reduced to a level that is less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), and **M-BI-11** (restoration of temporary impacts).

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

The significant short-term indirect impacts to habitat connectivity and wildlife corridors will be reduced to a level that is less than significant through implementation of **M-BI-1** (biological monitoring), **M-BI-2** (temporary construction fencing), **M-BI-18** (noise), and **M-BI-20** (lighting).

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

The significant long-term indirect impacts to habitat connectivity and wildlife corridors will be reduced to a level that is less than significant through implementation of **M-BI-3** (habitat

conveyance and preservation), **M-BI-4** (permanent fencing and signage), **M-BI-18** (noise), and **M-BI-20** (lighting).

10 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

10.1 Guidelines for the Determination of Significance

The County of San Diego's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a) 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 following guidelines for the determination of significance come directly from the County's guidelines (County of San Diego 2010a).

Guideline 4.5: The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

A. For lands outside of the Multiple Species Conservation Plan (MSCP), the project would impact coastal sage scrub (CSS) vegetation in excess of the County's 5% habitat loss threshold as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

B. The project would preclude or prevent the preparation of the subregional Natural Communities Conservation Planning Process (NCCP). For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat Preserves.

C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the Resource Protection Ordinance (RPO).

D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the Natural Communities Conservation Planning Process (NCCP) Guidelines.

E. The project does not conform to the goals and requirements as outlined in any applicable Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), Watershed Plan, or similar regional planning effort.

F. For lands within the Multiple Species Conservation Program (MSCP), the project would not minimize impacts to Biological Resource Core Areas (BRCAs), as defined in the Biological Mitigation Ordinance (BMO).

G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

H. The project does not maintain existing movement corridors and/or habitat linkages as defined by the Biological Mitigation Ordinance (BMO).

I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

J. The project would reduce the likelihood of survival and recovery of listed species in the wild.

K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act).

L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act).

10.2 Analysis of Project Effects

10.2.1 Project Effects Relevant to Guideline 4.5.A (Coastal Sage Scrub Habitat Loss)

The Land Exchange Alternative is located within the MSCP County Subarea Plan and therefore this guideline does not apply.

10.2.2 Project Effects Relevant to Guideline 4.5.B (NCCP Planning)

The Land Exchange Alternative is in conformance with the regional and subregional planning documents. The Development Footprint within Village 14 is consistent with the Otay Ranch GDP/SRP in that development will only occur within areas designated as development within the Otay Ranch GDP/SRP and impacts to the Otay Ranch RMP Preserve are limited to access roads and improvements to Proctor Valley Road. Although a portion of Village 14 is within CDFW ownership, the development rights within that portion of the village were never eliminated. Therefore, the Land Exchange Alternative would still be in conformance with the original development and Otay Ranch RMP Preserve boundaries with the exception of the boundary adjustment discussed below. Development of the Land Exchange Alternative would not occur within areas that have been identified by the County or resource agencies as critical to future habitat Preserves. The realignment of, and improvements to, Proctor Valley Road conform with the goals and requirements of the applicable planning documents as discussed further under Guideline 4.5.E.

The Land Exchange Alternative includes a boundary adjustment to the County of San Diego (County) MSCP Subarea Plan (1997) and an amendment to the Otay Ranch Resource Management Plan (RMP) (Otay Ranch 2011) which would result in a net gain of 268.5 acres to the Otay Ranch RMP/MSCP Preserve system. The County MSCP Subarea Plan identifies a "hard line" Preserve/development boundary for Village 14 and Planning Areas 16/19. The MSCP Subarea Plan provides take authorization for Covered Species outside of the Preserve boundary. MSCP Preserve areas within Village 14 and Planning Areas 16/19 are identified as hard line Preserves, and any proposed impacts within these areas would require a boundary adjustment and equivalency analysis. In addition, changes in the Otay Ranch RMP Preserve boundary would be subject to analysis and findings pursuant to the boundary modification provisions of the RMP. The Final MSCP Plan, Section 5.4.2 (MSCP 1998), permits boundary adjustments without processing plan amendments as follows:

> Adjustments to the MHPA and or/Preserve boundaries can be made without the need to amend the MSCP Plan or subarea plan if the adjustment will result in the same or higher biological value of the Preserve. The determination of biological value of the proposed change is made by the local jurisdiction and must have the concurrence of the wildlife agencies. No amendment of the subarea plan is needed for an approved equivalent exchange.

A detailed analysis of the Land Exchange Alternative's proposed Preserve configuration and determination of biological equivalency is provided in Appendix K.

When combined with Jackson Pendo's 517.4 acres of land already designated as Otay Ranch RMP Preserve in Village 14 and Planning Areas 16/19, the land exchange and boundary adjustment, along with related development approvals, will eliminate the current Otay Ranch GDP/SRP–approved archipelago configuration of the Otay Ranch RMP Preserve and development, and result in the elimination of approximately 13.3 miles of edge effect. These two actions will result in a 31% reduction in development as designated in the Otay Ranch GDP/SRP, and the preservation of a large contiguous block of connected Preserve lands that will supplement and preserve a "core" biological area within the Proctor Valley area. This contiguous block of preserved lands adds to the adjacent off-site state land, National Wildlife Refuge land, Bureau of Land Management lands, and Otay Ranch RMP Preserve owned by others. Therefore, the Land Exchange Alternative is in conformance with the regional and subregional planning documents.

10.2.3 Project Effects Relevant to Guideline 4.5.C (RPO Wetlands)

The RMP is intended to be the functional equivalent of the County of San Diego RPO (County of San Diego 2007) for Otay Ranch and is a component of the County of San Diego MSCP

Subarea Plan. As such, subsequent Otay Ranch projects are exempt from the provisions of the RPO if determined to be consistent with a Comprehensive Resource Management and Protection Program and therefore this guideline does not apply.

10.2.4 Project Effects Relevant to Guideline 4.5.D (Coastal Sage Scrub)

The Land Exchange Alternative is located within Otay Ranch and therefore is not subject to compliance with Section 4.3 of the Natural Communities Conservation Planning Process (NCCP) Guidelines. Instead, as discussed further in Section 10.2.5, the Otay Ranch RMP includes conveyance procedures for dedicating parcels of land to the Otay Ranch RMP Preserve. Conveyance is not based on habitat type but on total developable land.

The Land Exchange Alternative would result in the permanent loss of 142.7 acres of coastal sage scrub, which includes off-site impacts, and would preserve through conveyance 331.7 acres (300.6 acres within Village 14 and 31.1 acres in Planning Area 16 within applicant ownership after the land exchange and boundary adjustment). In addition, to the required conveyance, the Land Exchange Alternative includes a boundary adjustment and land exchange which would result in a net increase of 322.7 acres of coastal sage scrub land due to the reduced Development Footprint. Therefore, the Land Exchange Alternative would result in the preservation of 654.4 acres of coastal sage scrub.

10.2.5 Project Effects Relevant to Guideline 4.5.E (Regional Planning Efforts)

The Land Exchange Alternative conforms with the goals and requirements outlined in the MSCP Plan, the County of San Diego Subarea Plan, Otay Ranch RMP, City of San Diego's MSCP Subarea Plan, and the City of Chula Vista MSCP Subarea Plan as described in detail below.

10.2.5.1 MSCP Plan and the MSCP County Subarea Plan

The Land Exchange Alternative is located within the boundaries of the MSCP Plan. The MSCP is a multi-jurisdictional habitat conservation planning program which involves USFWS, CDFW, the County of San Diego, the City of San Diego, the City of Chula Vista, and other local jurisdictions and special districts. A total of 85 plant and animal species are "covered" by the MSCP Plan (Table 3-4a of the MSCP Plan). With approval of each Subarea Plan and corresponding implementing agreement, each participating local jurisdiction received permits and/or management authorized to directly impact or "take" MSCP Covered Species. The Covered Species include species listed as endangered or threatened by FESA or CESA, as well as unlisted species. Table 3-5 in the MSCP Plan includes specific conditions required for take authorizations.

To confirm the Land Exchange Alternative's consistency with the County MSCP Subarea Plan, Dudek reviewed the sections in the Otay Ranch RMP, the County MSCP Subarea Plan and Implementing Agreement as they related to the Otay Ranch RMP Preserve and compared (a) the areas of designated Otay Ranch RMP Preserve for Village 14 and Planning Areas 16/19, with (b) the Preserve acreage of the Land Exchange Alternative. Dudek determined that, the designated areas of Otay Ranch RMP Preserve within the Land Exchange Area are greater than what was identified in the Otay Ranch GDP/SRP and incorporated in the Otay Ranch RMP, the MSCP Plan and MSCP County of San Diego Subarea Plan and Implementing Agreement. Although the applicant has requested an MSCP Preserve boundary adjustment which would re-designate 43.6 acres of Preserve within Village 14 as development, the boundary adjustment will in turn give 311.9 acres of land within Village 14 and Planning Areas 16/19, resulting in a net increase of 268.3 acres of preserved land. These acreage comparisons show that the Land Exchange Alternative does not reduce the Otay Ranch RMP Preserve and is therefore consistent with the Preserve assumptions of the County MSCP Subarea Plan and the Otay Ranch RMP.

Given that the Land Exchange Alternative is consistent with the MSCP Plan and Otay Ranch RMP and increases their "hardline" Preserve assumptions, it is reasonable to conclude that the Land Exchange Alternative can be implemented consistent with the habitat loss findings set forth in Table 3-5 of the MSCP Plan and incorporated by reference into the USFWS-issued Section 10 permit as the MSCP Preserve was deemed to be satisfactory per the Biological Opinion (USFWS 1998) to mitigate for development impacts within the County Subarea Plan.

10.2.5.2 County of San Diego Biological Mitigation Ordinance

As previously stated, the Land Exchange Alternative will increase the originally approved "hardline" MSCP Preserve for Village 14 and Planning Areas 16/19. As such, the Land Exchange Alternative conforms with the overall goals and requirements of the MSCP County of San Diego Subarea Plan, including, where applicable, the County's Biological Mitigation Ordinance.

10.2.5.3 County MSCP Subarea Plan - Roads

Within the MSCP County of San Diego Subarea Plan, a project that results in take of Covered Species from construction of new or modified existing circulation element road corridors is required to complete a consistency analysis as outlined in Section 1.9.3.2 of the MSCP County Subarea Plan.

New and Existing Roads within the Lake Hodges and South County Segments

Per Section 1.9.3.2 of the County MSCP Subarea Plan, take of Covered Species from construction of new or modified existing circulation element road corridors (within all segments of the Subarea Plan), which are identified on the County's circulation element road map dated September 17, 1997

(GPA 97-CE), is based on the County making findings for the Land Exchange Alternative. Even though improvements to Proctor Valley Road North would occur within the jurisdiction of the County MSCP Subarea Plan, the Land Exchange Alternative is located within Otay Ranch and is therefore subject to the requirements of the RMP. Nonetheless, the following consistency analysis provided in Table 10-1, Improvements to Proctor Valley Road MSCP County Subarea Plan Consistency Analysis, is based on bullet points A through F outlined in Section 1.9.3.2 of the County MSCP Subarea Plan, along with the above requirements.

Table 10-1
Improvements to Proctor Valley Road MSCP County Subarea Plan Consistency Analysis

County Finding	Consistency Analysis
The project is consistent with adopted community or subregional plans, and the MSCP and Subarea Plans.	As demonstrated within this analysis, the Proctor Valley Road North alignment is consistent with both the County Subarea Plan and the RMP siting criteria as well as the adopted County General Plan and Jamul/Dulzura Community Plan. Proctor Valley Road is an allowable use within the MSCP Preserve.
All feasible mitigation measures have been incorporated into the project and there are no feasible, less environmentally damaging locations, alignments or non-structural alternatives that would meet project objectives.	Improvements to the northern portion of Proctor Valley Road follow the current road alignment and have been designed to stay within the existing footprint to the extent feasible. Proctor Valley Road has been designed to coincide with the existing alignment to the extent feasible as a 2 lane mobility element road. The road was previously designated in the GDP/SRP as 4-lane major from Chula Vista to SR 94 and thus would have resulted in additional impacts to sensitive resources. Permanent impacts associated with the road include 3.1 acres of impacts to sensitive upland habitats and 0.09 acres of impact to jurisdictional aquatic resources. Permanent impacts would be mitigated through conveyance of Otay Ranch RMP Preserve acreage to the POM (M-BI-3). Temporary impacts to 9.2 acres of sensitive upland habitat and 0.52 acres of jurisdictional aquatic resources would be revegetated with native habitat (M-BI-11).
Where the project encroaches into a wetland or floodplain, mitigation measures have been incorporated into the project that result in a net gain in wetland and/or riparian habitat.	Proctor Valley Road North would impact 0.61 acres of wetland/riparian habitat (0.09 acres of permanent impacts and 0.52 acres of temporary impacts) (**Impacts V-11** and **V-12**). Mitigation measures **M-BI-11** (restoration of temporary impacts) and **M-BI-21** (federal and state agency permits) described in Section 7.4 and would mitigate for these impacts through restoring temporarily impacted resources to pre-project conditions, and coordination with federal and state agencies to obtain the appropriate permits and approval for impacts to jurisdictional aquatic resources. The overall ratio of wetland/riparian habitat mitigation should be 3:1, thus resulting in a net gain of these resources.
Where the project encroaches into steep slopes, native vegetation will be used to revegetate and landscape cut and fill areas.	Improvement of Proctor Valley Road North would not result in impacts to steep slopes.
No mature riparian woodland will be destroyed or reduced in size due to otherwise allowed encroachments.	Proctor Valley Road North would not result in impacts to mature riparian woodland.

Table 10-1
Improvements to Proctor Valley Road MSCP County Subarea Plan Consistency Analysis

County Finding	Consistency Analysis
All Critical Populations of Sensitive Plant Species within the County's Subarea (Attachment C of BMO), Rare Narrow Endemic Animal Species within the County's Subarea (Attachment D of BMO), Narrow Endemic Plant Species within the County's Subarea (Attachment E of BMO), and San Diego County Sensitive Plant Species (as defined in the BMO), will be avoided as required and consistent with the Subarea Plan and BMO.	Requirements of the BMO are not applicable to Proctor Valley Road Central and North, which falls under the purview of the Otay Ranch RMP. Improvements associated with Proctor Valley Road North would result in impacts 2 individuals of San Diego marsh-elder, 21 southwestern spiny rush individuals and 2 San Diego County viguiera individuals. The road improvements would not impact any rare narrow endemic animal species. The alignment has specifically been revised to avoid impacts to a vernal pool containing San Diego fairy shrimp.

In addition, an optional trail is contemplated through Planning Areas 16/19. This trail would be contained within an existing dirt road (0.9 acre) and would not result in any additional direct impacts to sensitive resources.

10.2.5.4 Otay Ranch Resource Management Plan

The Otay Ranch RMP and the Otay Ranch Preserve serve as the basis for CEQA mitigation of biological impacts identified in the Otay Ranch PEIR. The Otay Ranch RMP includes conveyance procedures for dedicating parcels of land to the Otay Ranch Preserve. The RMP establishes an obligation for each new development to convey its fair share of the Preserve. Fair-share contribution requirements are established in the RMP as a proportion of Ranch-wide development to Ranch-wide Preserve land. The RMP established a fair-share contribution to the creation of the Preserve as a ratio of 1.188 acres of Preserve conveyance required for every one (1.000) acre of development. Accordingly, the conveyance ratio for all development is 1.188 acres for each acre of the Land Exchange Alternative Development Footprint, excluding areas that include "common uses," such as schools, parks, and arterial roadways. These "common use" areas are excluded from the required mitigation/conveyance. The Otay Ranch RMP was incorporated into the County's MSCP Subarea Plan. A project's compliance with the RMP constitutes its compliance with the County's MSCP.

Common uses, not subject to conveyance, include 13.5 acres of public parks, the 8.3-acre elementary school, 23.1 acres of major circulation, the 2.3-acre public safety site, and 0.6 acres for the water tank access road (47.8 acres total). In addition, the 3.0 acres of impact within Village 14 Otay Ranch RMP Preserve is an allowable use and does not require mitigation. Total impacts (598.7 acres), less these common areas (47.8 acres), is 550.9 acres. Thus, the overall number of developable acres within the Land Exchange Area subject to the RMP Preserve

Conveyance Obligation of 1.188 is 550.9 acres. Therefore, developable land within the Land Exchange Area is subject to a conveyance obligation of 654.5 acres (550.9 acres × 1.188 = 654.5 acres). This obligation would be satisfied through on-site conveyance of Otay Ranch RMP Preserve which totals 687.2 acres.

In summary, the Otay Ranch RMP conveyance obligation is the required fair-share mitigation based on the Otay Ranch RMP and the MSCP. The total acreage of the Proctor Valley Preserve is a function of the boundaries of the Specific Plan Area. Upon conveyance of 687.2 acres to the Otay Ranch RMP Preserve, the Land Exchange Alternative would be consistent with the Otay Ranch RMP conveyance requirement.

The Land Exchange Alternative would also result in impacts to Otay Ranch RMP Preserve within Planning Areas 16/19 as a result of improvements and realignment of Proctor Valley Road. According to Policy 6.6 of the Otay Ranch RMP, infrastructure (i.e., roads) is an allowable use within the Preserve. Figure 14 of the Otay Ranch RMP shows the conceptual location of Proctor Valley Road.

The Otay Ranch RMP also established required preservation ratios for the entire Otay Ranch resources. Section 8, Jurisdictional Wetlands and Waterways, describes how additional mitigation ratios are required to mitigate for impacts to jurisdictional resources. In combination with the greater Otay Ranch RMP Preserve, these measures achieve these conservation requirements. Based on the Land Exchange Alternative and cumulative Otay Ranch conservation of selected species, the Land Exchange Alternative is consistent with the requirements of the Otay Ranch RMP.

10.2.5.5 City of San Diego MSCP Subarea Plan - Cornerstone Lands

The City of San Diego's Cornerstone Lands are also located City of San Diego's MHPA. As an Essential Public Project (described in Section 2.4.1, City of San Diego MSCP Subarea Plan), the Proctor Valley Road improvements require mitigation for impacts within the MHPA Preserve. As shown in Table 7-1, direct impacts to City of San Diego Cornerstone Lands as a result of the widening of Proctor Valley Road South and Central total 33.4 acres, of which 13.62 acres require a mitigation total of 13.74 acres. The mitigation ratios range from 1:1 to 2:1 (see Table 7-1). Temporary impacts, which total 19.2 acres, would be restored upon Land Exchange Alternative completion. Based on the Land Exchange Alternative design and associated mitigation, the Land Exchange Alternative is consistent with the requirements of the City of San Diego MSCP Subarea Plan and Land Development Code Biology Guidelines (City of San Diego 2012) (see Table 10-2, Summary of Siting Criteria for City of San Diego Off-Site Portion of Proctor Valley Road and Associated Utilities). As discussed in Section 5, the Land Exchange Alternative

includes an MSCP boundary adjustment. Portions of the "give" lands within the boundary adjustment would be used to mitigate for impacts to City of San Diego Cornerstone Lands.

In addition, placement of roads within the City of San Diego's MHPA must be in compliance with the policies identified in Section 1.4.2 of the City of San Diego's Subarea Plan (see Table 10-2). These polices are listed below.

- All proposed utility lines (e.g., sewer, water) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.
- All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP Covered Species, and wetlands. If avoidance is infeasible, mitigation will be required.
- Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.
- Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.
- Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.
- Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully functional wildlife movement capability. Bridges are the preferred

method of providing for movement, although culverts in selected locations may be acceptable. Fencing, grading and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.

- Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.
- For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore will be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management Section 1.5.

Table 10-2
Summary of Siting Criteria for City of San Diego
Off-Site Portion of Proctor Valley Road and Associated Utilities

Siting Criteria	Analysis
Minimize intrusion into the MHPA	Proctor Valley Road has been designed to coincide with the existing alignment to the extent feasible as a 2 lane mobility element road. Portions of the road were previously designated in the GDP/SRP as 4-lane and thus would have resulted in additional impacts to sensitive resources. Temporary impacts to the existing road would be restored as part of the revegetation plan, and as such would result in the conversion of 1.1 acres of existing road to native vegetation. In addition, realignment of Proctor Valley Road South would result in 4.7 acres of the existing road to be abandoned in place.
Minimize environmental impacts (avoid MSCP Covered Species and wetlands)	Proctor Valley Road has been reduced from a four-lane to a two-lane road, thus minimizing impacts to the extent feasible while meeting requirements for improvement. Current impacts to jurisdictional aquatic resources (e.g., wetlands) include permanent and temporary impacts to mule fat scrub (0.1 and 0.2 acres) and unvegetated stream channel (0.02 acres and 0.1 acres). Widening the road to four lanes would result in an increase of impacts to those resources. Approximately 0.3 mile of the road between the South Village and Central Village has been realigned to the east to provide a 100-foot buffer from the watershed of all vernal pools that are located in the Cornerstone Land properties. Improvements to the road would result in 10.0 acres of temporary and 8.1 acres of permanent impacts to coastal sage scrub, and associated subtypes, that is suitable habitat for coastal California gnatcatcher (Impacts W-1 and W-2). The temporary impacts would be restored to pre-project conditions while mitigation for the 7.8 acres of permanent impacts would be replaced in kind thus resulting in a no net loss of habitat for this species.
Avoid disturbance of existing habitat	Improvements and realignment of Proctor Valley Road would result in impacts to sensitive vegetation (Impact V-3) and non-sensitive land covers. Of the 33.8 acres of impact, 18.1 acres of temporary and 13.6 acres of permanent impacts would be to sensitive upland communities, 0.5 acres would be to jurisdictional aquatic resources (0.35 acres temporary), and 2.2 acres would be to non-sensitive communities (1.1 acres temporary and 1.1 acres permanent) (Impact V-3). Temporary impacts would be restored by planting native vegetation (M-BI-11). The remaining 13.62 acres of permanent impacts would be mitigated per the mitigation ratios identified in Table 7-1. By reducing the alignment from four to two

Table 10-2
Summary of Siting Criteria for City of San Diego
Off-Site Portion of Proctor Valley Road and Associated Utilities

Siting Criteria	Analysis
	lanes, additional impacts to existing habitat have been avoided.
Avoid significant disruption of corridor usage	This portion of the Proctor Valley Road is not located within a wildlife corridor, but it does run parallel to existing wildlife corridor (Figure 4-5). The road will cross over L4 just north of the current alignment. Construction of the road would result in temporary impacts to the local corridor during construction (Impact WLC-1). This temporary impact would be mitigated through the following measures: M-BI-1 (biological monitoring), M-BI-2 (temporary construction fencing), and M-BI-11 (restoration of temporary impacts). Additionally, in conformance with the Otay Ranch GDP/SRP and Otay Ranch RMP, wildlife crossings would be provided under Proctor Valley Road to allow for wildlife movement through natural topography (Figures 5-3, 5-4, and 5-5). Therefore, improvements and realignment of the road would not result in a significant disruption of corridor use. As described in the Otay Ranch RMP, revisions to the Proctor Valley Development Footprint were specifically made, as a part of the original Otay Ranch GCP/SRP approval in 1993, for purposes of resolving general Preserve design and wildlife habitat connectivity issues, including development reductions to widen corridors and to avoid encroachments. As a result, the Proctor Valley regional wildlife corridor 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. Since then, the Land Exchange Alternative was further redesigned to achieve an overall greater Preserve configuration through a land exchange and boundary adjustment (see Appendix A). This provided for the preservation and improvement of the regional corridor (R1), which links the Jamul Mountains and San Miguel Mountain (Figure 4-5), providing a wider and more northern route. 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.
Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/ emergency access roads	The City of San Diego MSCP Subarea Plan excludes certain utilities and public facilities from the MHPA within Cornerstone Lands, including Proctor Valley Road. As such, construction of Proctor Valley Road within the Preserve system "is not precluded based on the City's Cornerstone Lands Conservation Bank Agreement." (City of San Diego 1997).
Avoid development of roads in canyon bottoms	The Land Exchange Alternative includes realignment and improvements to an existing road. Proctor Valley Road is not located within a canyon bottom.
Road widths are narrowed and in lower quality habitat	Proctor Valley Road provides the main access to Otay Ranch Village 14 and is currently a two-lane road from the Chula Vista city limits to SR-94. This portion of the road would be improved within its existing alignment to a two-lane with median Light Collector with a width ranging from 68 to 74 feet. A construction easement, including 20 feet of fuel modification, would flank each side of the roadway. Additional infrastructure would be included within the easement, including a sewer, water and dry utility extension, and the Proctor Valley Regional Pathway.

Table 10-2
Summary of Siting Criteria for City of San Diego
Off-Site Portion of Proctor Valley Road and Associated Utilities

Siting Criteria	Analysis
Maintenance of existing roads	The Land Exchange Alternative does not include maintenance of existing roads.

ROW = right-of-way; TM = Tentative Map; N/A = not applicable; QCB = Quino checkerspot butterfly.

10.2.5.6 City of Chula Vista MSCP Subarea Plan

A portion of the Proctor Valley Road improvements (1,200 feet) are located within the City of Chula Vista MSCP Subarea Plan and City limits. This MSCP includes specific provisions for projects subject to their jurisdiction, as described in Section 2.4.2. However, this portion of Proctor Valley Road is defined as the "easternmost reach" of the Rolling Hills Ranch (a.k.a. Salt Creek Ranch) project, which is a Covered Project with hardlines in the City of Chula Vista's MSCP Subarea Plan. As described in Section 2.4.2, 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. Through this easement agreement, impacts to certain resources, including non-wetland MSCP Covered Species, do not require further mitigation.

The off-site impact areas within City of Chula Vista are consistent with City Planning Guidelines and do not conflict with the goals or standards of the City's Subarea Plan since the impacts are for the road improvement. The placement of this facility is analyzed as part of the facility siting criteria and is as follows.

The following is a summary of the Facilities Siting Criteria (Section 6.3.3.4 and Table 6-1 of the Subarea Plan) as required for the Land Exchange Alternative's Planned and Future Facilities:

1. Such facilities will be located in the least environmentally sensitive location feasible, and use existing roads, trails and other disturbed areas, including use of the active recreation areas in the Otay River Valley, as much as possible (except where such areas are occupied by the Quino checkerspot butterfly (*Euphydryas editha quino*)). Facilities should be routed through developed or developing areas where possible. If no other routing is feasible, alignments should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.
2. Such facilities shall avoid, to the maximum extent practicable, impacts to Covered Species and Wetlands, and will be subject to the provisions, limits, and mitigation

requirements for Narrow Endemic Species and Wetlands pursuant to Section 5.2.3 and 5.2.4 of the Subarea Plan.

3. Where roads cross the Preserve, they should provide for wildlife movement in areas that are graphically depicted on and listed in the MSCP Subregional Plan Generalized Core Biological Resource Areas and Linkages map as a core biological area or a regional linkage between core biological areas. All roads crossing the Preserve should be designed to result in the least impact feasible to Covered Species and Wetlands. Where possible at wildlife crossings, road bridges for vehicular traffic rather than tunnels for wildlife use will be employed. Culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. To the extent feasible, crossings will be designed as follows: the substrate will be left in a natural condition or revegetated if soils engineering requirements force subsurface excavation and vegetated with native vegetation if possible; a line-of-sight to the other end will be provided; and if necessary, low-level illumination will be installed in the tunnel.
4. To minimize habitat disruption, habitat fragmentation, impediments to wildlife movement and impact to breeding areas, road and/or right-of-way (ROW) width shall be narrowed from existing City design and engineering standards, to the maximum extent practicable. In addition, roads shall be located in lower quality habitat or disturbed areas to the maximum extent practicable.
5. Impacts to Covered Species and habitats within the Preserve resulting from construction of Future Facilities will be evaluated by the City during project review and permitting. The City may authorize Take for impacts to Covered Species and habitats resulting from construction of Future Facilities located outside the Preserve, pursuant to the Subarea Plan and consistent with the Facility Siting Criteria in this section.
6. The City may authorize "Take" for impacts to Covered Species resulting from construction of Future Facilities located within the Preserve, subject to a limitation of 2 acres of impact for individual projects and a cumulative total of 50 acres for all Future Facilities. Wildlife Agency concurrence will be required for authorization of Take for any impacts to Covered Species and habitat within the Preserve that exceed 2 acres that may result from construction of any individual Future Facility. Wildlife Agency concurrence will be required for authorization of Take for impacts to Covered Species and habitat within the Preserve that exceed 50 acres that may result from all Future Facilities combined.

7. Planned and Future Facilities must avoid impacts to Covered Narrow Endemic Species[16] and the Quino checkerspot butterfly to the maximum extent practicable. When such impacts cannot be avoided, Planned and Future facilities located within the Preserve are subject to the provisions of Section 5.2.3.6 of the Subarea Plan. Impacts to Quino checkerspot butterfly that will result from construction of Planned and Future Facilities within the Preserve are subject to the provisions of Section 5.2.8 of the Subarea Plan.

Facility Siting Criteria (City of Chula Vista)

This section outlines the Planned Facilities associated with the Land Exchange Alternative and how they adhere to the Facilities Siting Criteria. Proctor Valley Road is identified in the City of Chula Vista MSCP Subarea Plan as a Planned Facility and is located in an MSCP Preserve area. The proposed Proctor Valley Road provides the main access to Proctor Valley Village 14 and is currently a two-lane road (within an approximately 60-foot ROW) from the Chula Vista city limits to State Route 94 (SR-94). Most of the alignment is outside of the City of Chula Vista and not within the Preserve, and therefore, not subject to the siting criteria. Approximately 0.25 miles of the southernmost portion of the road is located within the City of Chula Vista. This portion of the road would be improved within its existing alignment reduced to a two-lane with median Light Collector with a width ranging from 68 to 74 feet. A construction easement, including 20 feet of fuel modification, would flank each side of the roadway. Additional infrastructure would be included within the easement, including a sewer, water and dry utility extension and the Proctor Valley Regional Pathway.

The existing designation as a four-lane major road would have resulted in greater impacts to sensitive vegetation communities. In its proposed two-lane design, impacts to sensitive vegetation are limited to 2.0 acres of temporary and 2.0 acres of permanent impacts to coastal sage scrub and 0.3 acres of temporary and 0.1 acres of permanent impacts to coastal and valley freshwater marsh as well as 0.01 acres both temporary and permanent impacts to mulefat scrub. The four-lane design would result in an increase impacts to coastal sage scrub by 1.6 acres and coastal and valley freshwater marsh by 0.1 acres.

The Proctor Valley Road improvements necessary to support the Land Exchange Alternative are sited within and immediately adjacent to the existing roadway alignment. In general, the process for designing and locating the Planned Facilities followed an iterative process with the project civil engineer. The facilities were analyzed by overlaying potential Planned Facility locations with biological resources, including vegetation communities, species locations, and jurisdictional

[16] The Subarea Plan defines narrow endemic Species as "species that are highly restricted by their habitat affinities or other ecological factors". The full list of narrow endemic species is provided in Table 5-4 of the Subarea Plan.

aquatic resources. Adjustments were made to reduce impacts to sensitive resources to the greatest extent possible without compromising the integrity and purpose of each facility. In addition, facilities such as sewer, water and dry utility extensions and regional trails were co-located with the roadway to reduce impacts. In some cases there are impacts to sensitive resources; however, the effects of shifting facilities to another location would have been more impactful. Clustering these facilities within the construction ROW minimizes habitat and sensitive species impacts and habitat fragmentation.

Table 10-3 provides a summary of these facilities as they relate to the siting criteria as they relate to the Chula Vista Subarea Plan.

Table 10-3
Summary of Facilities Siting Criteria for City of Chula Vista
Off-Site Portion of Proctor Valley Road and Associated Utilities

Facilities Siting Criteria	Proctor Valley Road; Sewer, Water, and Dry Utility Extensions; and Proctor Valley Regional Pathway – Planned Facilities (3.9 acres)
Least environmentally sensitive location	Proctor Valley Road has been designed to coincide with the existing alignment to the extent feasible. Portions of the road were previously designated as four-lane and thus would have resulted in additional impacts to sensitive resources. The four-lane design was analyzed and would result in an increase impacts to coastal sage scrub by 1.6 acres and coastal and valley freshwater marsh by 0.1 acres. Where sensitive resources occur, e.g., vernal pools, the road has been shifted to avoid those resources. Proctor Valley Road would be located adjacent to planned development and would not cause fragmentation of habitat. All facilities are located within a single ROW and include the Proctor Valley Road alignment, the sewer and storm drain, and the Proctor Valley Regional Pathway. Cross sections of Proctor Valley Road are provided on the TM submittal. Any manufactured slopes (within the MSCP Preserve) created in conjunction with Planned and Future Facilities would be replanted/landscape with native species.
Avoid wetlands and Covered Species and address Narrow Endemic Species	Improvements to Proctor Valley Road within the City of Chula Vista would result in permanent impacts to 0.01 acres of mulefat scrub and 0.32 acres of coastal and valley freshwater marsh (Impact V-10). The road has been reduced from four lanes to two lanes thus reducing impacts to coastal and valley freshwater marsh by 0.1 acres. Shifting the alignment outside of the current ROW would result in greater impacts to jurisdictional aquatic resources adjacent to the road. Since there is freshwater habitat on both sides of the existing road, shifting the road north or south would still result in impacts to jurisdictional aquatic resources.
Provide for wildlife movement	Improvements to Proctor Valley Road would primarily be in alignment with the current ROW. The road would remain a two-lane road and would not be widened. Improvements to the road would not preclude wildlife from utilizing the area. This portion of Proctor Valley Road would not impede a major regional linkage and culverts would not be required within the MSCP Preserve. In addition, the road would remain two lanes instead of four, allowing for continued at grade wildlife movement through this area. Because of their co-location within a minimal-width construction ROW, these linear facilities would not impede wildlife movement.

Table 10-3
Summary of Facilities Siting Criteria for City of Chula Vista
Off-Site Portion of Proctor Valley Road and Associated Utilities

Facilities Siting Criteria	Proctor Valley Road; Sewer, Water, and Dry Utility Extensions; and Proctor Valley Regional Pathway – Planned Facilities (3.9 acres)
Road widths are narrowed and in lower quality habitat	Proctor Valley Road provides the main access to Proctor Valley Village 14 and is currently a two-lane road from the Chula Vista city limits to SR-94. This portion of the road would be improved within its existing alignment to a two-lane with median Light Collector with a width ranging from 68 to 74 feet. A construction easement, including 20 feet of fuel modification, would flank each side of the roadway. Additional infrastructure would be included within the easement, including a sewer, water and dry utility extension, and the Proctor Valley Regional Pathway. The previous road design consisted of a four-lane road would increase the width of the road and result in 1.7 acres of additional impacts to sensitive vegetation communities.
Impacts for future facilities will be evaluated by the City	N/A – All facilities/utilities have been co-located with the planned alignment of Proctor Valley Road.
Future facilities are limited to 2 acres or cumulative total of 50 acres	N/A
Avoid impacts to Covered Narrow Endemic Species and QCB	The proposed alignment would impact 25 Otay tarplant individuals located within the City of Chula Vista study area. Since this species is a narrow endemic, impacts to this species are limited to 5% of the total population within the Land Exchange Area. However, as described in Section 2.4.1, 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 and letter agreement between USFWS, GDFW, City of Chula Vista and Pacific Bay homes dated July 19, 2001. As part of this agreement, no further mitigation for narrow endemic species or other Cover Species, including Otay tarplant are required within this easement area. Therefore, direct off-site impacts to Otay tarplant (a narrow endemic species) individuals would not be considered significant. No QCB were observed within the Land Exchange Area, including off-site areas. Therefore, this portion of the Proctor Valley Road alignment would not impact QCB.

ROW = right-of-way; TM = Tentative Map; N/A = not applicable; SR-94 = State Route 94; QCB = Quino checkerspot butterfly.

10.2.6 Project Effects Relevant to Guideline 4.5.F (Biological Mitigation Ordinance)

A Land Exchange Agreement would establish take-authorized hardline development and Preserve boundaries for the entire Land Exchange Area. Therefore, there are no areas within the Land Exchange Area that would require conformance with the Biological Mitigation Ordinance, and this guideline does not apply.

10.2.7 Project Effects Relevant to Guideline 4.5.G (Connectivity between Areas of High Habitat Value)

According to Figure 4-1, Habitat Evaluation Model, of the MSCP County Subarea Plan, the Land Exchange Alternative encompasses moderate, high and very high habitat value areas of coastal sage scrub. The Land Exchange Alternative conforms with the goals and requirements outlined in the applicable regional planning efforts MSCP Subarea Plan, Otay Ranch RMP, City of San Diego's MHPA, and the City of Chula Vista MSCP Subarea Plan as described previously. All of these documents contemplated habitat connectivity.

The Land Exchange Alternative includes a boundary adjustment and land exchange which would result in a net increase of preserved land due to the reduced Development Footprint. As described in detail in Appendix A, the boundary adjustment coupled with the land exchange will result in a large, connected area of coastal sage scrub being protected within the Preserve and state-owned lands. Elimination of Otay Ranch GDP/SRP–approved development allows for the preservation of larger blocks of coastal sage scrub located primarily within the long north–south parcel in the eastern portion of Planning Area 16 and in the adjacent portion of Planning Area 16 to the west. According to SanGIS vegetation mapping, the area in between these two parcels, which are already within state ownership, also contains coastal sage scrub (SANDAG 2012).

The preservation of these areas will allow for the movement of coastal sage scrub species throughout the Otay Ranch RMP and MSCP Preserve areas and will be especially important for species, such as coastal California gnatcatcher. Movement throughout the Preserve provides opportunities for these species to expand their populations and connect to other open space. The connectivity of the coastal sage scrub to other habitats, including open water areas, as well as the cismontane alkali marsh in the northwest areas of the Preserve, provides for additional foraging opportunities that may be used by coastal California gnatcatchers. Coastal California gnatcatchers have been known to use chaparral, grassland, riparian, or alluvial habitats where they occur adjacent to coastal sage scrub (Bailey and Mock 1998). The use of these habitats appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the nesting season. These non-sage scrub habitats are used for dispersal (Bowler 1995; Campbell et al. 1995). Campbell et al. (1998) discuss likely hypotheses for why non-coastal sage scrub habitat is used by coastal California gnatcatchers, including food source availability, dispersal areas for juveniles, temperature extremes, fire avoidance, and lowered predation rates for fledglings.

With the newly reconfigured Preserve/open space, coastal California gnatcatchers would be able to disperse throughout the entire block of habitat to off-site Preserve areas. The connectivity of the coastal sage scrub to other habitats, including open water areas, as well as the cismontane

alkali marsh in the northwestern areas of the Preserve, provides for other foraging opportunities that may be used by gnatcatcher. The boundary adjustment, coupled with the land exchange, will result in a larger more unified Preserve/open space area with less edge effect from the surrounding development areas. By creating a single Preserve area, mixed with state-owned lands, on the eastern edge of the Jackson Pendo Parcel, fragmentation of essential habitat will be reduced or avoided.

10.2.8 Project Effects Relevant to Guideline 4.5.H (Movement Corridors Defined in the BMO)

Land Exchange Alternative would maintain existing movement corridors and habitat linkages. See discussion in Sections 10.2.5.2 and 10.2.6, above.

10.2.9 Project Effects Relevant to Guideline 4.5.I (Narrow Endemics)

Impacts to Otay tarplant (a narrow endemic species) are discussed under Guideline 4.1.A (Section 6.2.1) and Guideline 4.5.E (Section 10.2.5). Approximately 35 variegated dudleya individuals were recorded within the southern portion of the Village 14 Development Footprint (**Impact SP-2**). Since this species is a narrow endemic, additional mitigation in the form of translocation and plantings would be provided (**M-BI-10**). In addition to relocation of existing populations for variegated dudleya to a suitable receptor site within the Otay Ranch RMP Preserve, the Biological Resource Salvage Plan would also include additional plantings of this species in order to achieve a 2:1 mitigation ratio. Therefore, impacts to this species would not be considered significant.

10.2.10 Project Effects Relevant to Guideline 4.5.J (Listed Species)

Three listed species were observed within the Land Exchange Area: Otay tarplant, San Diego fairy shrimp, and coastal California gnatcatcher. The Land Exchange Alternative would not result in impacts to known locations of San Diego fairy shrimp (based on protocol surveys conducted from 2014-2016). Impacts to Otay tarplant and coastal California gnatcatcher are discussed in relation to Guideline 4.1.A in Section 6.2.1. Although not observed in the Land Exchange Area, impacts to habitat for Quino checkerspot butterfly and Hermes copper butterfly are also discussed in Section 6.2.1.

10.2.11 Project Effects Relevant to Guideline 4.5.K (Migratory Birds)

Impacts to migratory birds (**Impact W-5**) are discussed in Sections 6.2.1, 6.2.2, and 6.2.3.

10.2.12 Project Effects Relevant to Guideline 4.5.L (Eagles)

As discussed in Section 5.3.1.2, Table 5-5, and Section 6.2.5, the Land Exchange Alternative would impact suitable foraging habitat for golden eagle (**Impact W-3**). This impact, however, was contemplated by the RMP and MSCP, and therefore has already been mitigated and is thus less than significant. **M-BI-3** (habitat conveyance and preservation) ensures that the mitigation contemplated under the RMP and MSCP is implemented as anticipated. The Land Exchange Alternative would not result in the "take" of golden eagles, eagle eggs, or any part of an eagle. The Land Exchange Alternative would not disturb any golden eagle or active golden eagle nest, and it would not place human disturbance within 4,000 feet of any active golden eagle nest. 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).

10.3 Cumulative Impact Analysis

The Land Exchange Alternative would result be consistent with the applicable planning documents and would not result in cumulative impacts under this guideline.

10.4 Mitigation Measures and Design Considerations

No other mitigation is proposed for impacts to local policies, ordinances, and plans because the Land Exchange Alternative remains consistent with all approved planning documents/plans.

10.5 Conclusions

Implementation of the Land Exchange Alternative does not conflict with currently established local policies, ordinances, or plans. Biological resources protected under these documents are expected to remain safeguarded given the compliance of the Land Exchange Alternative with the stipulations indicated in these regulations.

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11 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Sections 6.5, 7.5, 8.5, 9.5, and 10.5 summarize the impacts and associated mitigation for each significant impact that may occur as a result of the Land Exchange Alternative. Table 11-1 summarizes the impacts and mitigation required for impacts to special-status species, vegetation communities, and jurisdictional areas.

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
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 California Department of Fish and Game or U.S. Fish and Wildlife Service.*						
6.2.1	Preventative Measure	Potential habitat for San Diego Fairy Shrimp	None	M-BI-7 (San Diego fairy shrimp take authorization)	Less than significant	4.1.A
6.2.1 6.2.2.2	W-1	Habitat for Special-Status Wildlife Species	Temporary Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-5 (nesting bird survey) M-BI-11 (restoration of temporary impacts) M-BI-18 (noise)	Less than significant	4.1.A 4.1.B
6.2.1 6.2.2.2 6.2.3.2 6.2.6 6.2.12	W-2	Habitat for Special-Status Wildlife Species	Permanent Direct	M-BI-1 (biological monitoring) M-BI-3 (habitat conveyance and preservation) M-BI-4 (permanent fencing and signage) M-BI-5 (nesting bird survey) M-BI-12 (preconstruction bat survey) M-BI-13 (burrowing owl preconstruction survey)	Less than significant	4.1.A 4.1.B
6.2.5	W-3	Golden Eagle	Permanent Direct	M-BI-3 (habitat conveyance and	Less than significant	4.1.E

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				preservation) M-BI-4 (permanent fencing and signage)		
6.2.1	W-4	Quino Checkerspot Butterfly Suitable Habitat	Permanent Direct	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) M-BI-9 (Quino checkerspot butterfly management/enhancement plan)	Less than significant	4.1.A
6.2.1 6.2.2.2	W-5	Direct Loss of Birds under the MBTA	Permanent Direct	M-BI-1 (biological monitoring) M-BI-5 (nesting bird survey)	Less than significant	4.1.A 4.1.B
6.2.1	W-6	Hermes Copper Butterfly	Permanent Direct	M-BI-3 (habitat conveyance and preservation) M-BI-4 (permanent fencing and signage)	Less than significant	4.1.A
6.2.8.2 6.2.12	W-7	Special-Status Wildlife Species	Temporary Indirect	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) M-BI-18 (noise)	Less than significant	4.1.H 4.1.L
6.2.8.2	W-8	Special-Status Wildlife	Permanent	M-BI-4 (permanent fencing	Less than	4.1.H

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
		Species	Indirect	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)	significant	
6.2.2.1	SP-1	Special-Status Plant Species (County List A and B Species)	Temporary Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing)	Less than significant	4.1.B
6.2.2.1	SP-2	Special-Status Plant Species (County List A and B Species)	Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-3 (habitat conveyance and preservation) M-BI-10 (biological resource salvage plan)	Less than significant	4.1.B
6.2.8.1	SP-3	Special-Status Plant Species	Temporary Indirect	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-14 (SWPPP) M-BI-15 (erosion and runoff control) M-BI-17 (prevention of chemical pollutants)	Less than significant	4.1.H
6.2.8.1	SP-4	Special-Status Plant Species	Permanent Indirect	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-17 (prevention of	Less than significant	4.1.H

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				chemical pollutants) M-BI-19 (fire protection)		
Guideline 4.2: *The project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service.*						
7.2.1	V-1	Sensitive Vegetation Communities – Off-Site Areas Only	Temporary Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts) M-BI-21 (federal and state agency permits	Less than significant	4.2.A
7.2.1	V-2	Sensitive Vegetation Communities - On-Site	Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-3 (habitat conveyance and preservation) M-BI-4 (permanent fencing and signage) M-BI-21 (federal and state agency permits)	Less than significant	4.2.A
7.2.1	V-3	City of San Diego MSCP Cornerstone Lands	Temporary and Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts) M-BI-21 (federal and state agency permits	Less than significant	4.2.A
7.2.1	V-4	Lands Within City of Chula Vista	Temporary and Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts) M-BI-21 (federal and state	Less than significant	4.2.A

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				agency permits)		
7.2.1	V-5	Off-Site Otay Ranch Lands	Temporary and Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts)	Less than significant	4.2.A
7.2.4	V-6	Off-Site Otay Ranch RMP Preserve	Temporary and Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts)	Less than significant	4.2.A
7.2.4	V-7	County of San Diego Road Easement	Temporary and Permanent Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-3 (habitat conveyance and preservation) M-BI-11 (restoration of temporary impacts)	Less than significant	4.2.A
7.2.4	V-8	Sensitive Vegetation Communities – Land Exchange Area	Temporary Indirect	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-14 (SWPPP) M-BI-15 (erosion and runoff control) M-BI-17 (prevention of chemical pollutants) M-BI-21 (federal and state agency permits	Less than significant	4.2.D
7.2.4	V-9	Sensitive Vegetation Communities – Land Exchange Area	Permanent Indirect	M-BI-4 (permanent fencing and signage M-BI-14 (SWPPP) M-BI-15 (erosion and runoff control) M-BI-16 (prevention of	Less than significant	4.2.D

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				invasive plant species) M-BI-17 (prevention of chemical pollutants) M-BI-18 (fire protection)		
7.2.2	V-10	Jurisdictional Aquatic Resources – Off-Site Areas Only	Temporary Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts) M-BI-21 (federal and state agency permits	Less than significant	4.2.B
7.2.2	V-11	Jurisdictional Aquatic Resources – Land Exchange Alternative (including off-site areas)	Permanent Direct	M-BI-21 (federal and state agency permits	Less than significant	4.2.B
7.2.2	V-12	Jurisdictional Aquatic Resources – Land Exchange Area	Temporary Indirect	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-14 (SWPPP) M-BI-15 (erosion and runoff control) M-BI-17 (prevention of chemical pollutants)	Less than significant	4.2.B
7.2.2	V-13	Jurisdictional Aquatic Resources – Land Exchange Area	Permanent Indirect	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-17 (prevention of chemical pollutants)	Less than significant	4.2.B
Guideline 4.3: *The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.*						
Refer to **Impacts V-10 through V-13**.						

Table 11-1
Summary of Impacts and Mitigation for Special-Status Species, Vegetation Communities, and Jurisdictional Areas

Section of Report Where Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
***Guideline 4.4**: The project would interfere substantially with the movement of a native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*						
9.2.1	WLC-1	Habitat Connectivity and Wildlife Corridors	Temporary Direct	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-11 (restoration of temporary impacts)	Less than significant	4.4.A
9.2.4	WLC-2	Habitat Connectivity and Wildlife Corridors	Temporary Indirect	M-BI-1 (biological monitoring) M-BI-2 (temporary construction fencing) M-BI-18 (noise) M-BI-20 (lighting)	Less than significant	4.4.D
9.2.4	WLC-3	Habitat Connectivity and Wildlife Corridors	Permanent Indirect	M-BI-3 (habitat conveyance and preservation) M-BI-4 (permanent fencing and signage) M-BI-18 (noise) M-BI-20 (lighting)	Less than significant	4.4.D
***Guideline 4.5:** The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state HCP.*						
None						

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12 REFERENCES

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

16 U.S.C. 668–668d. Bald and Golden Eagle Protection Act (BGEPA), as amended.

16 U.S.C. 703–712. Migratory Bird Treaty Act, as amended.

16 U.S.C. 1531–1544. Endangered Species Act of 1973, as amended.

65 FR 63680. Final Determination of Critical Habitat for the Coastal California Gnatcatcher. October 24, 2000.

66 FR 3853–3856. Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds. January 17, 2001.

74 FR 46836–46879. Final rule: "Eagle Permit; Take Necessary to Protect Interests in Particular Localities." September 11, 2009.

81 FR 91494 et seq. Final Rule: "Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests." December 16, 2016.

ACOE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual.* Wetlands Research Program Technical Report Y-87-1 (online edition). Vicksburg, MS: ACOE, Waterways Experiment Station, Environmental Laboratory. January 1987.

ACOE and EPA (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency). 2008. "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* & *Carabell v. United States*." December 2, 2008. http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008_12_3_ wetlands_CWA_Jurisdiction_Following_Rapanos120208.pdf.

ACOE. 2008a. *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. http://el.erdc.usace.army.mil/elpubs/pdf/trel08-28.pdf.

ACOE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley, ACOE Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. http://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf.

AECOM and Hogan, D. 2012. *Proctor Valley Vernal Pool Restoration Plan*. September 2012.

AOU (American Ornithologists' Union). 2016. *Check-List of North and Middle American Birds: List of the 2,127 Bird Species Known from the AOU Check-List Area*. Accessed October 14, 2016. http://checklist.aou.org/.

Atwood, J.L. 1990. *Status Review of the California Gnatcatcher (*Polioptila californica*)*. Manomet, Massachusetts: Manomet Bird Observatory. December 1990.

Atwood, J.L. 1993. "California Gnatcatchers and Coastal Sage Scrub: The Biological Basis for Endangered Species Listing." In *Interface between Ecology and Land Development in California*, edited by J.E. Keeley, 149–169. Los Angeles, California; Southern California Academy of Science.

Atwood, J.L., and J.S. Bolsinger. 1992. "Elevational distribution of California Gnatcatchers in the United States." *Journal of Field Ornithology* 63: 159–168.

Atwood, J.L., S.H. Tsai, C.H. Reynolds, and M.R. Fugagli. 1998a. "Distribution and Population Size of California Gnatcatchers on the Palos Verdes Peninsula, 1993–1997." *Western Birds* 29:340–350.

Atwood, J.L., S.H. Tsai, C.H. Reynolds, J.C. Luttrell, and M.R. Fugagli. 1998b. "Factors Affecting Estimates of California Gnatcatcher Territory Size." *Western Birds* 29: 269–279.

Bailey, E.A. and P.J. Mock. 1998. "Dispersal Capability of the California Gnatcatcher: A

Baker, R.J., J.C. Patton, H.H. Genoways, and J.W. Bickham. 1988. "Genic Studies of *Lasiurus* (Chiroptera: Vespertilionidae)." *Occasional Papers* 117:1–15. The Museum, Texas Tech University.

Bates, C. 2006. "Burrowing Owl (Athene cunicularia)." In *The Draft Desert Bird Conservation Plan: A Strategy for Reversing the Decline of Desert-Associated Birds in California.* California Partners in Flight. http://www.prbo.org/calpif/htmldocs/desert.html.

Beason, R.C. 1995. "Horned Lark (*Eremophila alpestris*)." In *The Birds of North America*, No. 195, edited by A. Poole and F. Gill. Philadelphia, Pennsylvania: The Academy of Natural Sciences, and Washington, DC: The American Ornithologists' Union.

Bechard, M.J., and J.K. Schmutz. 1995. "Ferruginous Hawk (*Buteo regalis*)." In *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/172.

Beebe, F.L. 1974. *Field Studies of the Falconiformes of British Columbia: Vultures, Hawks, Falcons, Eagles*. Occasional Papers of the British Columbia Provincial Museum (17). Victoria, British Columbia.

Bent, A.C. (O.L. Austin, Jr., ed.). 1968. *Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows, and Allies*. 3 Parts. U.S. National Museum Bulletin 237.

Best, T.L., W.M. Kiser, and P.W. Freeman. 1996. "*Eumops perotis.*" American Society of Mammalogists. *Mammalian Species* 534:1–8.

Bloom Biological Inc. 2007. *Summary of Late Winter and Spring Avian Survey with Focus on the California Condor (*Gymnogyps californianus*) on Portions of Newhall Land and Farming Company Property, Los Angeles County, California.* Revised. Prepared for Newhall Land Company. Ventura, California: Bloom Biological, Inc. July 13, 2007.

Bloom, P.H. 1994. "The Biology and Current Status of the Long-Eared Owl in Coastal Southern California." *Bulletin of the Southern California Academy of Science* 93:1–12.

Bontrager, D.R. 1991. *Habitat Requirements, Home Range Requirements, and Breeding Biology of the California Gnatcatcher (*Polioptila californica*) in South Orange County, California*. Prepared for Santa Margarita Company, Ranch Santa Margarita, California. April 1991.

Borcher, A. 2015. Personal communication between A. Borcher (Environmental Management) and Shelby Howard. (HELIX Environmental Planning). September 15, 2015.

Bossard, C.C., J.M. Randall, and M.C. Hoshovsky. 2000. *Invasive Plants of California's Wildlands*. Berkeley, California: University of California Press.

Bowler, P. 1995. "California Gnatcatcher Use of Mulefat and Coastal Sage Scrub Restoration as a Wetlands Margin Dispersal Corridor." Paper delivered at the Symposium on the Biology of the California Gnatcatcher held September 15–16, 1995 at University of California, Riverside.

Bowman, R.H. 1973. *Soil Survey, San Diego Area, California, Part 1*. United States Department of Agriculture.

Braden, G.T., R.L. McKernan, and S.M. Powell. 1997. "Association of Within-Territory Vegetation Characteristics and Fitness Components of California Gnatcatchers." *Auk* 114:601–609.

Brigham, R.M., H.D.J.N. Aldridge, and R.L. Mackey. 1992. "Variation in Habitat Use and Prey Selection by Yuma Bats, Myotis Yumanensis." Journal of Mammalogy(73)(3): 640–645. DOI: 10.2307/1382036.

Brown, L.H. 1976. *British Birds of Prey*. London: Collins.

Burger, J.C., M.A. Patten, J.T. Rotenberry, and R.A. Redak. 1999. "Foraging Ecology of the California Gnatcatcher Deduced from Fecal Samples." *Oecologia* 120:304–310.

Call, M.W. 1978. "Nesting Habits and Surveying Techniques for Common Western Raptors." Bureau of Land Management (BLM) Technical Note 316. Denver, Colorado: BLM, Denver Service Center.

Campbell, K., R. Erickson, and M. Patten. 1995. "Saving the Habitat and Losing the Birds: Adjacent Habitats, Management, and Natural History of the California Gnatcatcher." Paper delivered at the Symposium on the Biology of the California Gnatcatcher held September 15–16, 1995 at University of California, Riverside.

Campbell, K., R. Erickson, W. Haas and M. Patten. 1998. "California Gnatcatcher Use of Habitats Other Than Coastal Sage Scrub: Conservation and Management Implications." *Western Birds* 29:421–433.

CDFG (California Department of Fish and Game). 2000. *Guidelines for Assessing the Effects of Land Exchange Alternatives on Rare, Threatened, and Endangered Plants and Natural Communities*.

CDFG. 2010. *List of California Vegetation Alliances and Associations: Natural Communities List Arranged Alphabetically by Life Form*. September 2010. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.

CDFG. 2012. *Staff Report on Burrowing Owl Mitigation*. March 7, 2012. http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

CDFW (California Department of Fish and Wildlife). 2015. *RareFind*, Version 5.0. California Natural Diversity Database (CNDDB). Accessed June 2015. http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp.

CDFW. 2016a. "Special Animals (903 taxa)." California Natural Diversity Database. CDFW, Biogeographic Data Branch. Periodic publication. October 2016. https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

CDFW. 2016b. California Natural Diversity Database. *Special Vascular Plants, Bryophytes, and Lichens List*. Quarterly publication. October 2016. https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

CDFW. 2016c. *RareFind*, Version 5.2.7. California Natural Diversity Database (CNDDB). Accessed November 2016. http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp.

CDFW. 2017. California Natural Diversity Database GIS layer. July 2017.

Chesser, R.T., R.C. Banks, F.K. Barker, C. Ciero, J.L. Dunn, A.W. Kratter, I.J. Lovette, P.C. Rasmussen, J.V. Remsen, Jr., J.D. Rising, D.F. Stotz, and K. Winker. 2013. "Fifty-Fourth Supplement to the American Ornithologists' Union Check-List of North American Birds." *Auk* 130(3): 558–571.

City of Chula Vista and County of San Diego. 1993a. *Otay Ranch City of Chula Vista General Development Plan/County of San Diego Otay Subregional Plan*, Volume 2. Applicant: Otay Vista Associates. Prepared for Otay Ranch Joint Planning Project. Approved by: City of Chula Vista and County of San Diego. October 28, 1993. Last amended May 26, 2015.

City of Chula Vista and County of San Diego. 1993b. *Otay Ranch Resource Management Plan*. http://www.sandiegocounty.gov/content/dam/sdc/dplu/docs/OtayRMP.pdf.

City of Chula Vista and County of San Diego. 1993c. *Final Program Environmental Impact Report: Otay Ranch*. SCH No. 89010154. Prepared by Ogden Environmental and Energy Services Co. for Otay Ranch Joint Planning Project. Chula Vista, California. Prepared December 1993; approved October 28, 1993.

City of Chula Vista. 2003. *City of Chula Vista MSCP Subarea Plan.* February 2003. Accessed June 2015. http://www.chulavistaca.gov/home/showdocument?id=7106.

City of San Diego. 1997. *City of San Diego MSCP Subarea Plan*. Prepared by the City of San Diego Community and Economic Development Department. March 1997. http://www.sandiego.gov/planning/programs/mscp/docsmaps/index.shtml.

City of San Diego. 2012. *Land Development Code: Biology Guidelines*. Adopted September 28, 1999. Last amended April 23, 2012.

CNPS (California Native Plant Society). 2001. *Botanical Survey Guidelines*.

CNPS. 2016. *California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California*. California Native Plant Society. Sacramento, California: CNPS. Online edition, v8-02. Accessed November 2016. http://www.rareplants.cnps.org/.

CNPS. 2017. Inventory of Rare and Endangered Plants (online edition v8-03 0.39). Sacramento, California: California Native Plant Society. Accessed August 2017. www.rareplants.cnps.org.

Collins, P.W. 1999. "Rufous-Crowned Sparrow." In *Birds of North America*, no. 472, edited by A. Poole and F. Gill, 1–27. Philadelphia, Pennsylvania: The Birds of North America Inc.

Coulombe, H.N. 1971. "Behavior and Population Ecology of the Burrowing Owl, *Speotyto cunicularia*, in the Imperial Valley of California." *Condor* 73(2): 162–176.

County of Riverside. 2008. "Bell's Sage Sparrow." In *Understanding the Plants and Animals of the Western Riverside County MSHCP (Multiple Species Habitat Conservation Plan).* Prepared by Dudek.

County of San Diego. 1997. Multiple Species Conservation Plan. County of San Diego Subarea Plan. Adopted October 22, 1997. Prepared by the County of San Diego in conjunction with the U.S. Fish and Wildlife Service, California Department of Fish and Game.

County of San Diego. 2007. Resource Protection Ordinance. March 2007. http://www.sandiegocounty.gov/pds/docs/res_prot_ord.pdf.

County of San Diego. 2010a. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources*. Fourth Revision. Land Use and Environment Group, Department of Land Use and Planning and Development Services, Department of Public Works. September 15, 2010.

County of San Diego. 2010b. *County of San Diego Multiple Species Conservation Program South County Subarea Plan Annual Report*. South County Subarea Plan Annual Report Year 12, Reporting Period: January 1, 2009–December 31, 2009. April 14, 2010. Accessed March 2017. http://www.sandiegocounty.gov/content/dam/sdc/parks/RMD/RMPs%20and%20Trails/2009_MSCP_AnnualReport.pdf .

County of San Diego. 2010c. County of San Diego Biological Mitigation Ordinance. Ordinance Nos. 8845, 9246, 9632, 10039. Amendments effective April 2, 2010. http://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/SCMSCP/BMO_Update_2010.pdf.

County of San Diego. 2011a. *County of San Diego General Plan: A Plan for Growth, Conservation, and Sustainability*. Adopted August 2011. http://www.sandiegocounty.gov/pds/generalplan.html.

County of San Diego. 2015a. *Multiple Species Conservation Program South County Subarea Plan Annual Report (Year 17)*. Reporting Period: January 1, 2014–December 31, 2014. April 22, 2015. Accessed December 16, 2015. http://www.sandiegocounty.gov/content/dam/sdc/parks/MSCP/Documents/MSCP%20Annual%20Report%202014%20Final.pdf.

County of San Diego. 2015b. Administrative Draft Environmental Impact Report, Otay Ranch Resort Village. SCH# 2004101058. GPA 04-003, SP 04-002, TM5361A and TM5361B, REZ 04-009. Environmental Log Number ER 04-19-005 Lead Agency: County of San Diego. March 2015. https://www.sandiegocounty.gov/content/sdc/pds/ceqa/OtayRanchVillage13.html.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979. Reprinted 1992. http://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf.

CPUC and BLM (California Public Utilities Commission and Bureau of Land Management). 2011. *Final Environmental Impact Report/Environmental Impact Statement for East County Substation, Tule Wind, and Energia Sierra Juarez Gen-Tie Projects*. SCH no. 2009121079. Prepared by Dudek. Encinitas, California: Dudek. October 2011.

Crother, B.I. 2012. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*, edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles (SSAR); Herpetological Circular, no. 39. August 2012. Accessed 2015. http://home.gwu.edu/~rpyron/publications/Crother_et_al_2012.pdf.

Cryan, P.M. 2003. "Seasonal Distribution of Migratory Tree Bats (*Lasiurus* and *Lasionycteris*) in North America." *Journal of Mammalogy* 84:579–593.

Cypher, E.A. 2002. "General Rare Plant Survey Guidelines." Bakersfield, California: California State University, Stanislaus, Endangered Species Recovery Program. Revised July 2002. http://www.fws.gov/sacramento/ES/Survey-Protocols-Guidelines/Documents/rare_plant_protocol.pdf.

Diffendorfer, J.E., R.E. Chapman, J.M. Duggan, G.M. Fleming, M. Mitrovitch, M.E. Rahn, and R. del Rosario. 2002. *Coastal Sage Scrub Response to Disturbance: A Literature Review and Annotated Bibliography*. Prepared for the California Department of Fish and Game. February 28, 2002.

Dudek. 2015. *Acoustical Analysis Report for Proctor Valley Village 14 and Preserve*. October 2015.

Dudek. 2016. "2016 Focused Quino Checkerspot Butterfly Survey Report for the Proposed Otay Ranch Resort Village (Village 13) Project, County of San Diego, California". Letter report to Recovery Permit Coordinator (U.S. Fish and Wildlife Service) from Dudek. May 31, 2016.

Dykstra, C.R., J.L. Hays, and S.T. Crocoll. 2008. "Red-Shouldered Hawk (*Buteo lineatus*)." In *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/107/.

Emmel, T.C., and J.F. Emmel. 1973. *The Butterflies of Southern California*. Natural History Museum of Los Angeles County, Science Series 26:1–148.

Fitch, H. S. 1948. Ecology of the California ground squirrel on grazing lands. American Midland Naturalist 39:513–596.

Foster, M.L., and S.R. Humphrey. 1995. "Use of Highway Underpasses by Florida Panthers and Other Wildlife." *Wildlife Society Bulletin*, 23(1):95–100.

Garner, D.J., and B.S. Milne. 1998. "A Study of the Long-Eared Owl *Asio otus* Using Wicker Nesting Baskets." *Bird Study* 45:62–67.

Garrett, K., and J. Dunn. 1981. "Golden Eagle, *Aquila chrysaetos*." In *Birds of Southern California: Status and Distribution*, 134–135. Los Angeles, California: Los Angeles Audubon Society.

Grinnell, J. 1926. "A New Race of Rufous-Crowned Sparrow, from North-Central Lower California." *Auk* 43:244–245.

Grinnell, J., and A.H. Miller. 1944. *The Distribution of the Birds of California*. Pacific Coast Avifauna, no. 27. Berkeley, California: Cooper Ornithological Club. December 30, 1944.

Hall, E.R. 1981. "*Lepus californicus*, Black-Tailed Jack Rabbit." In *The Mammals of North America*. Vol. 1, 324–326. 2nd ed. New York, New York: John Wiley and Sons.

HELIX. 2016. *Otay Ranch Proctor Valley Village 14 & Preserve Quino Checkerspot Butterfly Survey Report*. Prepared for Jackson Pendo Development Company. Prepared by HELIX Environmental Planning. May 13, 2016.

HELIX. 2015. *Otay Ranch Proctor Valley Village & Preserve Quino Checkerspot Butterfly Survey Report*. Prepared for Jackson Pendo Development Company. Prepared by HELIX Environmental Planning. June 3, 2015.

HELIX. 2018. "Quino Checkerspot Butterfly Status on Otay Ranch Village 14 and Planning Areas 16/19 Development Footprint and Conserved Footprint." Letter report from S. Howard and B. Jones (HELIX) to J. Jackson (Jackson Pendo Development Company). February 5, 2018.

Hermanson, J.W., and T.J. O'Shea. 1983. "*Antrozous pallidus*." *Mammalian Species* 213:1–8.

Holland, D.C., and R.H. Goodman Jr. 1998. "Western Spadefoot Toad." In *A Guide to the Amphibians and Reptiles of MCB Camp Pendleton, San Diego County, California*. Prepared for AC/S Environmental Security, Resource Management Division, MCB Camp Pendleton. Contract M00681-94-C-0039. Fallbrook, California: Camp Pendleton Amphibian and Reptile Survey. November 6, 1998.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game.

Holt, D.W. 1997. "The Long-Eared Owl (*Asio otus*) and Forest Management: A Review of the Literature." *Journal of Raptor Research* 31:175–186.

Hunsicker, G.R. 1972. Nesting Behavior of Golden Eagle, *Aquila chrysaetos*, in San Diego County, California. MS thesis. University of California Riverside, Riverside, California.

Hunt, W.G., and T. Hunt. 2006. The Trend of Golden Eagle Territory Occupancy in the Vicinity of the Altamont Pass Wind Resource Area: 2005 Survey. Final Project Report CEC-500-2006-056. Public Interest Energy Research (PIER) Program, California Energy Commission, Sacramento, California.

Hunt, W.G., R.E. Jackman, T.L. Brown, and L. Culp. 1999. A Population Study of Golden Eagles in the Altamont Pass Wind Resource Area: Population Trend Analysis 1994–1997. Predatory Bird Research Group, University of California, Santa Cruz, California. Prepared for the National Renewable Energy Laboratory, Golden, Colorado.

Jennings, M.R., and M.P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. Final report. Commissioned by the California Department of Fish and Game, Inland Fisheries Division Endangered Species Project. November 1, 1994. http://www.dfg.ca.gov/wildlife/nongame/publications/docs/herp_ssc.pdf.

Jepson Flora Project. 2016. Jepson eFlora. Berkeley, California: University of California. Accessed October 18, 2016. http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl.

Johnsgard, P.A. 1990. "Golden Eagle." In *Hawks, Eagles, and Falcons of North America: Biology and Natural History*, 260–268. Washington, D.C.: Smithsonian Institution Press.

Keeley, J.E. 1987. "Role of Fire in Seed Germination of Woody Taxa in California Chaparral." *Ecology* 68:434–442.

Kirk, D.A., and M.J. Mossman. 1998. "Turkey Vulture (*Cathartes aura*)." In The Birds of North America Online, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/339/articles/introduction.

Kochert, M.N., K. Steenhof, C.L. Mcintyre, and E.H. Craig. 2002. "Golden Eagle." In *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. doi: 10.2173/bna.684.

Lechleitner, R.R. 1958. "Movements, Density, and Mortality in a Black-Tailed Jack Rabbit Population." *Journal of Wildlife Management* 22(4):371–384.

Lemm, J.M. 2006. *Field Guide to Amphibians and Reptiles of the San Diego Region*. California Natural History Guides. ISBN: 9780520245747. December 2006.

Lenihan, C. M. 2007. The Ecological Role of the California Ground Squirrel (Spermophilus beecheyi). Ph.D. Dissertation. University of California, Davis, California.

Lovich, J.E., and J.R. Ennen. 2011. "Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States." *Bioscience* 61:982–992.

Lowe, C.H., J.W. Wright, C.J. Cole, and R.L. Bezy. 1970. "Natural Hybridization between the Teiid Lizards *Cnemidophorus sonorae* (Parthenogenetic) and *Cnemidophorus tigris* (Bisexual)." *Systematic Zoology* 19:114–127.MacWhirter, R.B., and K.L. Bildstein. 2011. "Northern Harrier (*Circus cyaneus*)," revised by K.G. Smith and S.R. Wittenberg. In *The Birds of North America Online,* edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. doi: 10.2173/bna.210.

Malanson, G.P., and J.F. O'Leary. 1982. "Post-Fire Regeneration Strategies in California Coastal Sage Shrubs." *Oecologia* 53:355–358.

Marschalek, D., and D. Deutschman. 2017. San Diego County Hermes Copper (*Lycaena hermes*) Habitat Conservation and Management Plan. Prepared for San Diego Association of Governments. https://portal.sdmmp.com/download_efi.php?efiid=EFIID_ sarah.mccutcheon@aecom.com_5952a6c728bb9.

Marks, J. S., D. L. Evans, and D. W. Holt. 1994. "Long-Eared Owl (*Asio otus*)." In *The Birds of North America,* No. 133, edited by A. Poole and F. Gill. Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.

Marti, C.D., A.F. Poole, and L.R. Bevier. 2005. "Barn Owl (*Tyto alba*)." In *The Birds of North America Online,* edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/001/articles/introduction.

Marzluff, J.M., S.T. Knick, M.S. Vekasy, L.S. Schueck, and T.J. Zarriello. 1997. "Spatial Use and Habitat Selection of Golden Eagles in Southwestern Idaho." *Auk* 114(4):673–687.

Minta, S.C. 1993. "Sexual Differences in Spatio-Temporal Interaction among Badgers." *Oecologia* 96:402–409.

Morales, J.C. and J.W. Bickham. 1995. "Molecular Systematics of the Genus *Lasiurus* (Chiroptera: Vespertilionidae) Based on Restriction-Site Maps of the Mitochondrial Ribosomal Genes." *Journal of Mammalogy* 76:730–749.

MSCP (Multiple Species Conservation Program). 1998. *Final MSCP Plan*. Prepared by: MSCP Policy Committee and MSCP Working Group. San Diego, California. http://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/SCMSCP/FinalMSCPProgramPlan.pdf

NABA (North American Butterfly Association). 2016. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from "North American Butterfly Association (NABA) Checklist and English Names of North American Butterflies," eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed October 14, 2016. http://www.naba.org/pubs/enames2.html.

Nafis, G. 2014. *A Guide to the Amphibians and Reptiles of California*. http://www.californiaherps.com/.

Nafis, G. 2016. "Desert Banded Gecko – *Coleonyx variegatus variegatus*." *California Herps: A Guide to the Amphibians and Reptiles of California*. Accessed November 16, 2016. http://www.californiaherps.com/lizards/pages/c.v.variegatus.html.

NatureServe. 2014. *NatureServe Explorer: An Online Encyclopedia of Life* [web application]. Version 7.1. Arlington, Virginia: NatureServe. Accessed August 2015. http://explorer.natureserve.org.

O'Leary, J.F., D. Murphy, and P. Brussard. 1992. *The Coastal* Sage *Scrub Community Conservation Planning Region: An NCCP Special Report.* Natural Community Conservation Planning/Coastal Sage Scrub Special Report 2.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," by R.F. Holland, PhD, October 1986. March 2008.

Ogden (Odgen Environmental and Energy Service Company). 1992a. *Final Program Environmental Impact Report – Otay Ranch*. Prepared for Otay Ranch Joint Planning Project. December 1992.

Ogden. 1992b. *Baldwin Otay Ranch Wildlife Corridors Studies: Phase 1 Report*. Prepared for the Otay Ranch Project Team. December 1992.

Ogden. 1992c. *Otay Ranch Raptor Management Study*. Prepared for the Otay Ranch Project Team. July 1992.

Olendorff, R.R. 1976. "The Food Habits of North American Golden Eagles." *American Midland Naturalist* 95:231–236.

Otay Ranch. 2011. *Resource Management Plan (RMP).* Prepared by Dudek and Associates Inc. Prepared for Otay Ranch Joint Planning Project. Anticipated to be approved in 2011 by: City of Chula Vista and County of San Diego.

Parish, D.A. and C. Jones. 1999. "Big Free-Tailed Bat: *Nyctinomops macrotis*." In *The Smithsonian Book of North American Mammals*, edited by D.E. Wilson and S. Ruff, 130–131. Washington and London: Smithsonian Institution Press.

Pelton, E., S. Jepsen, C. Schultz, C. Fallon, and S. H. Black. 2016. *State of the Monarch Butterfly Overwintering Sites in California.* Report to the U.S. Fish and Wildlife Service. Prepared by The Xerces Society. Portland, Oregon: The Xerces Society for Invertebrate Conservation. http://www.xerces.org/state-of-the-monarch-butterfly-overwintering-sites-in-california/.

Polite, C., and J. Pratt. 1999. Life History Accounts and Range Maps – California Wildlife Habitat Relationships System. Accessed August 4, 2008. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx.

Porter, E. 2016. Email from Eric Porter (of U.S. Fish and Wildlife Service) to Rob Cameron (of Jackson Pendo Development) regarding regional Quino checkerspot butterfly sightings. April 4, 2016.

Preston, K.L., P.J. Mock, M.A. Grishaver, E.A. Bailey, and D.F. King. 1998. "California Gnatcatcher Territorial Behavior." *Western Birds* 29:242–257.

Quino Biologists United. 2016. First reported observation of adult Quino checkerspot butterfly in San Diego County, at east Otay Mesa. Reported by K. Klutz (Klutz Biological Consulting). February 22, 2016.

Reed**,** D.F., T.N. Woodward, and T.M. Pojar.1975. Behavioural Response of Mule Deer to a Highway Underpass. *Journal of Wildlife Management* 39: 361–367.

Reid, F. 2006. *A Peterson Field Guide to the Mammals of North America*. 4th ed. Boston, Massachusetts: Houghton Mifflin Company.

RH Consulting Group LLC, Dudek, Hunsaker & Associates, and SJA Landscape Architecture Land Planning. 2017. "Specific Plan – Appendix 1." In *Preserve Edge Plan: Otay Ranch Village 14 and Planning Areas 16/19.* Prepared for Jackson Pendo Development Company. August 2017.

Rocks, J. 2015. Personal communication between J. Rocks (URS) and S. Howard (HELIX Environmental Planning). September 15, 2015.

SANDAG (San Diego Association of Governments). 1995. Vegetation map GIS layer.

SANDAG. 2012. *Vegetation Mapping for Western San Diego County*. SANDAG SANGIS database. Accessed December 2014 and June 2015. GIS database.

SANDAG. 2015. MSCP_HABITRAK Ecology Regional MSCP Habitrak Data (loss and gain). SANDAG SANGIS GIS database. Last updated October 15, 2015. Accessed November 2015. https://www.pdffiller.com/en/project/49441285.htm?form_id=50363154

Scott, T.A. 1985. Human Impacts on the Golden Eagle Population of San Diego County from 1928 to 1981. November 21, 1985.

SDNHM (San Diego Natural History Museum). 2016. *San Diego Plant Atlas*. http://www.sdnhm.org/science/botany/projects/plant-atlas/.

SDNHM (San Diego Natural History Museum). 2017. Data retrieved from Herbarium and Plant Atlas databases for grid squares S14 and T14. San Diego County Plant Atlas Project. Online ed. Accessed August 2017. http://www.sdplantatlas.org/publicsearch.aspx.

Shump, K.A., Jr. and A.U. Shump. 1982. "*Lasiurus borealis*." *Mammalian Species* 183:1–6.

Smallwood, K.S. and L. Neher. 2009. *Map-Based Repowering of the Altamont Pass Wind Resource Area Based on Burrowing Owl Burrows, Raptor Flights, and Collisions with Wind Turbines;* Public Interest Energy Research–Environmental Area, Contract No. CEC-500-2009-065; California Energy Commission: Sacramento, CA, USA, 2009.

Smith, R.L. 1963. "Some Ecological Notes on the Grasshopper Sparrow." *Wilson Bulletin* 75(2): 159–165.

Smith, G.W. 1990. "Home Range and Activity Patterns of Black-Tailed Jackrabbits." *Great Basin Naturalist* 50:249–256.

Spiteri, D.E. 1988. "Geographic Variability of the Species *Lichanura trivirgata* and a Description of a New Subspecies." In *Proceedings of the Conference on California Herpetology*, edited by H.F. De Lisle, P.R. Brown, B. Kaufman, and B.M. McGurty, 113–130. Southwestern Herpetologists Society Special Publication no. 4. Van Nuys, California.

Stebbins, R.C. 1972. "Amphibians and Reptiles of California." In *California Natural History Guides*. No. 31. Berkeley, California: University of California Press.

Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians*. Boston, Massachusetts: Houghton Mifflin Co.

Taylor, I.R. 1994. *Barn Owls: Predator–Prey Relationships and Conservation*. Cambridge, UK: Cambridge University Press.

Todd, W.E.C. 1922. "A New Sparrow from Southern California." *Condor* 24(4): 126.

Tracey, J.A., M.C. Madden, J.B. Sebes, P.H. Bloom, T.E. Katzner, and R.N. Fisher. 2016. "Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, November 2014–February 2016." U.S. Geological Survey Data Series 994. http://dx.doi.org/10.3133/ds994.

Tracey, J.A., M.C. Madden, J.B. Sebes, P.H. Bloom, T.E. Katzner, and R.N. Fisher. 2017. "Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, February 2016–February 2017." U.S. Geological Survey Data Series 1051. https://doi.org/10.3133/ds1051.

Unitt. P. 1984. *The Birds of San Diego County*. San Diego, California: San Diego Society of Natural History.

Unitt, P. 2004. *San Diego County Bird Atlas*. Online (Google Earth) version. Proceedings of the San Diego Society of Natural History, no. 39. San Diego, California: San Diego Natural History Museum. Accessed March 30, 2013. http://www.sdnhm.org/science/birds-and-mammals/projects/san-diego-county-bird-atlas/.

Urquhart, F.A. 1987. *The Monarch Butterfly: International Traveler*. Chicago, Illinois: Hall.

USDA (U.S. Department of Agriculture). 2014. Natural Resources Conservation Service (NRCS).Web Soil Survey. Accessed 2014. http://websoilsurvey.nrcs.usda.gov/app/.

USDA. 2017. PLANTS Database. USDA Natural Resources Conservation Service. http://plants.usda.gov/java/.

USFWS (U.S. Fish and Wildlife Service). 1996. *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. April 19. Department of the Interior.

USFWS. 1997. "Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines." Carlsbad, California: USFWS. February 28, 1997.

USFWS. 2003. *Recovery Plan for the Quino Checkerspot Butterfly (*Euphydras editha quino*).* Portland, Oregon: USFWS, Region 1. August 11, 2003. http://ecos.fws.gov/docs/recovery_plan/030917.pdf.

USFWS. 2008. Birds of Conservation Concern. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management. Arlington, Virginia. December 2008. https://www.fws.gov/migratorybirds/pdf/grants/BirdsofConservationConcern2008.pdf.

USFWS. 2010. *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations.* Carlsbad, California: USFWS, Ecological Services; Arlington, Virginia: USFWS, Division of Migratory Bird Management. February 2010. http://www.fws.gov/southwest/es/oklahoma/Documents/Wind%20Power/Documents/USFWS_Interim_GOEA_Monitoring_Protocol_10March2010.pdf.

USFWS. 2011a. Draft Eagle Conservation Plan Guidance. January 2011. http://orsolutions.org/wp-content/uploads/2011/09/DRAFT-Eagle-Conservation-Plan.pdf.

USFWS. 2011b. Grant Application Form, For Consideration for TransNet Environmental Mitigation Program (EMP) Fiscal Year 2011 Funding for Land Management. June 10, 2011.

USFWS. 2014a. Quino Checkerspot Butterfly Survey Guidelines. Carlsbad, California: USFWS December 15, 2014.

USFWS. 2014c. Artificial Nest Platforms for Golden Eagles, San Diego National Wildlife Refuge Bureau of Land Management, Final Report. July 29, 2014

USFWS. 2015a. "Critical Habitat and Occurrence Data" [map]. Accessed June 2015. http://www.fws.gov/data.

USFWS. 2015b. Survey Guidelines for the Listed Large Branchiopods. May 31, 2015. https://www.fws.gov/sacramento/es/survey-protocols-guidelines/Documents/VernalPoolBranchiopodSurveyGuidelines_20150531.pdf.

USFWS. 2016. "Proposed 2016 Quino Checkerspot Butterfly Survey Protocol." February 2016.

USFWS. 2017.Critical Habitat and Occurrence Data" [map]. Accessed December 2017. http://www.fws.gov/data.

USFWS, CDFG (California Department of Fish and Game), and County of San Diego. 1998. MSCP County Subarea Plan Implementing Agreement by and between United States Fish and Wildlife Service, California Department of Fish and Game, County of San Diego, March 17, 1998.

USGS (U.S. Geological Survey). 2014a. National Hydrography Dataset. Accessed from https://nhd.usgs.gov/

USGS. 2014b. Golden Eagle Research in San Diego County in 2014: U.S. Geological Survey data summary prepared for the San Diego Association of Governments.

Weaver, K.L. 1998. "Coastal Sage Scrub Variations of San Diego County and Their Influence on the Distribution of the California Gnatcatcher." *Western Birds* 29:392–405.

Wiens, J.D., P.S. Kolar, M.R. Fuller, W.G. Hunt, and T. Hunt. 2015. *Estimation of Occupancy, Breeding Success, and Predicted Abundance of Golden Eagles (*Aquila chrysaetos*) in the Diablo Range, California. 2014*. U.S. Geological Survey Open-File Report 2015-1039. http://dx.doi.org/10.3133/ofr20151039.

Wilcove, D.S., C.H. McLellan, and A.P. Dobson. 1986. "Habitat Fragmentation in the Temperate Zone." In *Conservation Biology: The Science of Scarcity and Diversity*, edited by M.E. Soulé, Chapter 11, 237–256. Sunderland, Massachusetts: Sinauer Associates Inc.

Wilcox, B.A., and D.D. Murphy. 1985. "Conservation Strategy: The Effects of Fragmentation on Extinction." *American Naturalist* 125(6): 879–887.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*, 3rd ed. (MSW3 database). Accessed 2015. http://www.departments.bucknell.edu/biology/resources/msw3/browse.asp.

Wilson, D.E., and Ruff, S. 1999. *The Smithsonian Book of North American Mammals*. Washington and London: Smithsonian Institution Press, in association with the American Society of Mammalogists. October 1999.

WRI (Wildlife Research Institute Inc.). 2005. *Final Report for NCCP/MSCP Raptor Monitoring Project – Golden Eagles in the SD MSCP Area (2001-2003)*. March 31, 2005.

WRI. 2010. *Golden Eagles of the San Diego Multiple Species Conservation Plan Area 2004-2010*. December 9, 2010.

Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1988–1990. *California's Wildlife: Volume I–III.* Sacramento, California: California Department of Fish and Game.

Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990a. *California's Wildlife: Volume II. Birds.* Sacramento, California: California Department of Fish and Game.

Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990b. *California's Wildlife: Volume III. Mammals.* Sacramento, California: California Department of Fish and Game.

13 LIST OF PREPARERES AND PERSONS AND ORGANIZATIONS CONTACTED

This report was prepared by Dudek biologists Patricia Schuyler and Callie Ford. Review was provided by Brock Ortega. Graphics and GIS analyses were provided by Mark McGinnis. Amy Seals provided technical editing. Devin Brookhart, David Mueller, and Taylor Eaton provided publications assistance.

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APPENDIX A

Proposed Boundary Adjustment Equivalency Analysis for Otay Ranch Village 14 and Planning Areas 16/19 and Proposed Land Exchange Functional Equivalency Analysis for Otay Ranch Village 14 and Planning Areas 16/19

2018 Addendum to the Draft Land Exchange and Draft Boundary Adjustment Equivalency Analyses Prepared for the Land Exchange Alternative

In support of the Land Exchange Alternative, an equivalency analysis was prepared for both the proposed land exchange between the Jackson Pendo Development Company and the State of California and the proposed boundary adjustment to the Otay Ranch Resource Management Plan (RMP) Preserve/ Multiple Species Conservation Plan (MSCP) Preserve. These equivalency analyses were prepared in September 2015. Since that date, additional focused surveys have been conducted within the Land Exchange Alternative Project Area. Those updated surveys included: focused surveys for rare plants; focused surveys for western spadefoot (*Spea hammondii*); additional habitat assessment and focused surveys for Hermes copper butterfly (*Lycaena hermes*); additional focused surveys for listed large branchiopods (i.e., fairy shrimp); and additional focused surveys for Quino checkerspot butterfly (*Euphydryas editha quino*).

In order to provide the most recent data as a part of the equivalency analyses prepared for the Land Exchange Alternative, an updated species summary table from the Executive Summary (Table 4) is included in this addendum. This table provides updated populations of rare plant species preserved or proposed for development as a part of the two actions, as well as updated wildlife locations, and host plant or suitable habitat preservation and impacts. The updated table supports and reconfirms the conclusions presented in the 2015-equivalency analyses that these two actions would provide for more preservation of sensitive plant and wildlife species than the designated Otay Ranch RMP Preserve approved in the Otay Ranch General Development Plan/Subregional Plan (Otay GDP/SRP).

UPDATED - Executive Summary Table 4
Covered and Non-Covered Species Affected by the Proposed Land Exchange and Boundary Adjustment

Common Name (Scientific Name)	Status Federal/State/CRPR/ County List or Group	Populations Given to the Preserve/Exchanged to the State		Populations Taken from the Preserve/Exchanged from the State		Overall Net Change of Preserved Populations Resulting from the Land Exchange and Boundary Adjustment
		Land Exchange	*Boundary Adjustment*	*Land Exchange*	*Boundary Adjustment*	
Covered Plant Species						
San Diego goldenstar *(Bloomeria clevelandii)*	None/None/1B.1/ List A	+102	+1,207	−7	−1,492	-190
Brodiaea orcuttii Orcutt's brodiaea	None/None/ /1B.1/List A	+83	0	0	0	+83
Dunn's mariposa lily (*Calochortus dunni*)	None/SR/1B.2/ List A	0	+6	−5	0	+1
Non-Covered Plant Species						
Artemisia palmeri San Diego sagewort	None/None/4.2/List D	+2	+10	0	0	+12
Holocarpha virgata ssp. *elongata* Graceful tarplant	None/None/4.2/List D	0	+15	0	0	+15
San Diego marsh-elder (*Iva hayesiana*)	None/None/2.2/List B	+539	+2,802	−431	−111	+2,799
Pentachaeta aurea ssp. *aurea* Golden-rayed pentachaeta	None/None/4.2/List D	0	+10,267	0	-10	+10,257
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	None/None/4.3/List A	0	0	0	-61	-61
Selaginella cinerascens Ashy spike-moss	None/None/4.1/List D	+1.83	+2.23	0	-0.17	+3.89
Juncus acutus ssp. *leopoldii*	None/None/4.2/List D	+137	+52	0	0	+189

Southwestern spiny rush						
Stipa [=Achnatherum] diegoensis San Diego County needle grass	None/None/4.2/List D	+48	+109	0	0	+157
Munz's sage (*Salvia munzii*)	None/None/2.2/List B	+461	+2,288	−75	-274	+2,400
Viguiera laciniata San Diego County viguiera	None/None/4.2/List D	+1,932	+6,537	-1	-563	+7,905
Covered Wildlife Species						
Coastal California gnatcatcher (*Polioptila californica californica*)	FT/SSC/NA//Group 1	0	+2 pair	0	0	+2 pair (Impacts to 2 additional pairs would be avoided under the Land Exchange)
Blainville's horned lizard (*Phrynosoma blainvillii)*	None/SSC/NA/Group 2	+2	0	−2	−1	−1
Western bluebird (*Sialia mexicana*)	None/None/NA/Group 2	0	+2	0	0	+2
Northern harrier (*Circus cyaneus*)	None/SSC/NA/Group 1	+1	0	0	0	+1
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	None/WL/NA/Group 1	+4	0	0	0	+4
burrowing owl (*Athene cunicularia*)	BCC/SSC/NA/Group 1	+61.2 acres of suitable habitat	-10.1 acres of suitable habitat	+2.5 acres of suitable habitat	-2.8 acres of suitable habitat	+50.8 acres of suitable habitat
Non-Covered Wildlife Species						
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	None/SSC/NA/Group 2	+11	+3	−3	0	+11
California horned lark (*Eremophila alpestris actia)*	None/WL/NA/Group 2	+3	+2	0	0	+5
Western spadefoot (*Spea hammondii)*	None/SSC/NA/Group 2	0	0	−1	0	−1

San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*)	None/None/NA/Group 2	0	+1	0	0	+1
Loggerhead shrike *(Lanius ludovicianus)* (nesting)	BCC/SSC/NA/Group 1	0	+1	0	0	+1
White-tailed kite (*Elanus leucurus*) (nesting)	None/FP/NA/Group 1	0	+1	0	0	+1
Nuttall's woodpecker (*Picoides nuttallii*)	None/BCC/NA/None	0	+1	0	0	+1
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE/None/NA/Group 1	+273.5 acres of suitable habitat	-160.2 acres of suitable habitat	+274 acres of suitable habitat	-30.1 acres of suitable habitat	+357.2 acres of suitable habitat
western spadefoot (*Spea hammondii*)	None/SSC/NA/Group 2	+2 occupied features	-4 occupied features	+6 occupied features	0	+4 occupied features
Hermes copper (*Lycaena hermes*)	FC/None/NA/Group 1	+3.6 acres of suitable habitat	-4.2 acres of suitable habitat	+4.9 acres of suitable habitat	-1.4 acres of suitable habitat	+2.9 acres of suitable habitat
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE/None/Group 1	0	0	+3 occupied features	0	+3 occupied features

Notes: NA = not applicable
A positive number represents a net increase a population/suitable habitat to the preserve, and a negative number represents a net decrease of a population/suitable habitat from the preserve.
* CRPR only applies to plant species.

Federal Designations
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listed as threatened

State Designations
FP: California Department of Fish and Wildlife Fully Protected Species
SSC: California Species of Special Concern
SR: State listed as rare
WL: California Department of Fish and Wildlife Watch List Species

CRPR: California Rare Plant Rank (previously known as the CNPS List)
1B: Plants rare, threatened, or endangered in California and elsewhere
2: Plants rare, threatened, or endangered in California, but more common elsewhere

Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat) **County Designations**
Group 1: County of San Diego Sensitive Animal List

Group 2: County of San Diego Sensitive Animal List
List A: Plants rare, threatened, or endangered in California and elsewhere
List B: Plants rare, threatened, or endangered in California but more common elsewhere

APPENDIX B

Addendum to Final EIR No. 91-03 for Salt Creek Ranch Sectional Planning Area Plan; City of Chula Vista's Final Map 14756A and Letter Agreement between USFWS, CDFW, City of Chula Vista and Pacific Bay Homes dated July 19, 2001

Rolling Hills Ranch
In conjunction with the City of Chula Vista MSCP Subarea Plan, all parties agree to the following:

1. Pacific Bay will implement the "Proposed Alternative" project, dated 5/8/01, prepared by Helix Environmental Planning, presented to the Resource Agencies and City. This plan, described generally, eliminates all development within Neighborhood 13, adds a small development area north of Neighborhood 12, and transfers lost density into Neighborhood 9, and is attached and incorporated herein as Exhibit "A".
2. Along the western edge of Neighborhood 11 Street YYYY (from approximately Lots 19-25) will be moved easterly. Pacific Bay will be allowed to grade steeper slopes, no steeper than 2:1, on the rear portion of the lots across Street YYYY from Lots 19 through 25 in order to preserve the developability of lots on both sides of the road. These changes will result in the loss of Lot 19. Provided however, grading within the area of former Lot 19 shall be kept to the minimum extent necessary to allow the support of Street YYYY and adjacent lots, in order to maximize the protection of tarplant.
3. The brush management protocol adjacent to Lots 19 through 25 in Neighborhood 11 and Lots 69 through 75 in Neighborhood 12 will be amended to allow for selective thinning to minimize impacts to narrow endemic species.
4. The project will be revised to preserve additional tarplant through the elimination of lots 9 through 12 in Neighborhood 11. No changes to the alignment of Street YYYY adjacent to these lots will be required. Chain link fencing will be allowed around the detention basin.
5. In the internal, open space corridor between Neighborhoods 9 and 10A, and Neighborhoods 11 and 12 ("Internal Open Space Area"), a tarplant management program will be established. The program will be funded by a non-wasting endowment, to be provided by Pacific Bay, in the amount of $100,000. The Internal Open Space Area will be designated as a Tarplant Management Area ("TMA") in the Subarea Plan. The TMA will be managed by a qualified preserve manager to be approved by the City after consultation with the Wildlife Agencies. The Internal Open Space area will not be considered part of the MSCP Preserve, but will be credited as a component of onsite conservation for the Project.
6. Topsoil containing tar plant will be moved from development areas in Neighborhood 11 to the graded slopes in the Internal Open Space Area, in conjunction with the grading operation for the adjacent Neighborhoods.
7. The Project will be revised to preserve additional dudleya and provide ridge top connectivity along the easterly edge of the west ridge in Neighborhood 12. The reconfigured plan will be limited to redesign of Lots of 69 through 75 with loss of 6 to 7 lots per the Tentative Map configuration.
8. Pacific Bay will provide offsite mitigation for tarplant to include: (1) preservation of 5.8 acres (containing approximately 15,080 plants) within the San Miguel Mitigation

Bank; and, (2) conservation of 10 acres containing a minimum of 15,000 plants in a location within the MSCP Preserve.

9. No further mitigation requirements for non-wetland MSCP Covered Species will be required by the Resource Agencies as part of the 1603 Agreement and/or 404 Permit for the project, provided however wetland-dependent species will be addressed in accordance with Section 4.2.4 of the Subarea Plan.

10. Proctor Valley Road shall be allowed to be realigned within the Project to avoid impact to the San Diego Cornerstone Lands, with no further mitigation to Narrow Endemics or other MSCP Covered Species.

11. Pacific Bay is not obligated to construct the reach of Proctor Valley Road from immediately east of the easternmost entrance into Neighborhood 9 to the eastern subdivision boundary ("Easternmost Reach"). Pacific Bay will grant a floating easement for the future alignment of this road, as determined the City. In lieu of Pacific Bay's obligation to construct the Easternmost Reach, Pacific Bay will provide equivalent funding for off-site T-DIF improvements to be determined by the City through the Traffic Enhancement Program.

12. The aforementioned revisions shall be implemented in conjunction with a Substantial Conformance determination to be made by the City of Chula Vista upon approval by the City Council of the Subarea Plan that incorporates this agreement. The details of the mitigation conditions contained herein shall be incorporated into the Mitigation Monitoring and Reporting Program for the Project with approval of the City.

13. The provisions of this agreement represent the total mitigation package for the Rolling Hills Ranch Project, notwithstanding paragraph number 9 above. The Project shall receive hardline coverage under the MSCP Subarea Plan, contingent only on compliance with the above as well as the provisions of the MSCP Subarea Plan.

Agreed and accepted:

7/19/01

7/19/01

7/19/01

7/19/01

APPENDIX C

Golden Eagle Reference Documents

DUDEK

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MEMORANDUM

To: Mark Slovick, County of San Diego
From: Patricia Schuyler, Dudek
Cc: Greg Mattson, Susan Harris, and Kim Davis County of San Diego
Liz Jackson, Jim Jackson, and Rob Cameron, Jackson Pendo Development
Subject: Multiple Species Conservation Program – Golden Eagle Habitat Analysis (Draft)
Date: May 31, 2016 (Data Prepared by Dudek on December 11, 2015)
July 8, 2016 Updated and Revised
September 15, 2017 Updated and Revised

Question: How is the Multiple Species Conservation Program (MSCP) and County of San Diego (County) Subarea Plan performing with respect to the 53% preservation goal of foraging habitat for golden eagle (*Aquila chrysaetos*)?

Answer: Taking into consideration the MSCP Preserve assembled as of October 2015, plus the MSCP remaining Preserve, the MSCP Plan is projected to exceed golden eagle 53% habitat preservation by approximately 15,600 acres within the original Multi-Habitat Planning Area (MHPA), and by more than 35,500 acres total (Table 1). The County's Subarea Plan is projected to exceed its 54% golden eagle habitat preservation goal by approximately 9,900 acres within the MHPA, and by more than 28,000 acres total.

Table 1
Summary of Golden Eagle Habitat Preserved and
Total Estimated MSCP Preserve at Buildout

Golden Eagle MSCP Habitat Analysis	Overall MSCP Golden Eagle Habitat Preservation (acres)	County Subarea Golden Eagle Habitat Preservation (acres)
1. Total MSCP Golden Eagle Habitat (Tables 2&3) 2. MSCP Target Preserve Habitat (Tables 2&3)	264,448 (100%) 140,130 (53%)	169,879 (100%) 91,107 (54%)
3. Preserved Inside MSCP MHPA as of October 2015 (Tables 4&5) 4. Remaining Preserve to be Assembled (Tables 6&7)	90,856 64,878	65,615 35,356
5. Total MSCP Preserve at Buildout (Inside MHPA) (Lines 3+4) 6. Increase in MSCP Preserve Habitat (Lines 5-2)	*155,734* (59%) 15,604	*100,971* (59%) 9,864
7. Increase in Golden Eagle Habitat Outside MHPA (Tables 4&5) 8. Total Increase in Golden Eagle Habitat (Lines 6+7)	*19,941* 35,545	*18,304* 28,168
Total Estimated MSCP Preserve at Buildout (Lines 5+7)	**175,675 (66%)**	**119,275 (70%)**

Background

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 with implementation of the Plan. At the time the Plan was adopted, the MSCP planning area included 264,689 acres of habitat suitable[1] for golden eagle foraging (Table 3-3 of the MSCP Plan). Thus, to meet the MSCP Plan's objective of conserving 53% of golden eagle foraging habitat in the planning area, approximately 139,000 acres (Table 3-3 of the MSCP Plan) of such habitat must ultimately be brought into the Preserve system.

With respect to the County'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 Subarea Plan). Thus, to meet the County's Subarea Plan's objective, approximately 91,397 acres of golden eagle foraging habitat must ultimately be brought into the Preserve system.

Methodology

1. Using GIS software, Dudek overlaid the MSCP Plan boundary with the vegetation mapping used for the entire San Diego County MSCP mapping effort (SANDAG 1995) to determine the amount of suitable habitat within the MSCP Plan area and the County Subarea Plan. This was used to confirm that the acreages within the San Diego Association of Governments (SANDAG) data match the acreage presented Table 3-3 of the MSCP Plan so that this data can be used for further analysis.
2. Current HabiTrak (Habitat Tracking Reporting) data available from the SANDAG SANGIS Regional Data Warehouse (October 15, 2015) was then overlaid with the 1995 vegetation mapping data to calculate the golden eagle habitat preserved to date in both the MSCP and County Subarea Plan areas.
3. The HabiTrak data was also used to calculate the amount of golden eagle habitat both "inside the MHPA" and "outside the MHPA."[2]

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[1] Table 3-5 of the MSCP Plan identifies the following vegetation communities as potential foraging/nesting habitat (i.e., suitable habitat) for golden eagle: coastal sage scrub, chaparral, grassland, and oak woodland.

[2] The HabiTrak data maintained by the California Department of Fish and Wildlife within the SANGIS database varies slightly from the County of San Diego's records, since the County manually calculates its gains and losses (County of San Diego 2015).

Results of Golden Eagle Habitat Modeling

1. Table 2 provides the results of GIS confirmation of golden eagle foraging habitat within the MSCP Plan area. Tables 3 and 4 provide condensed versions of the crosswalk for the MSCP Plan and the County Subarea Plan.
2. Total golden eagle habitat in the MSCP Plan area comes to 264,448 acres, as shown in the last column of Table 2. This acreage is close to the "Total MSCP Study Area" acreage presented in Table 3-3 of the MSCP Plan, which is 264,689 acres. This 264,448-acre figure was then used to calculate the MSCP goal of preserving 53% of golden eagle foraging habitat, which comes to 140,130 acres, as shown in Table 2. The amount of golden eagle foraging habitat identified in Table 3-5 of the MSCP Plan is 139,000+/- acres. The GIS calculations are, therefore, achieved within an acceptable margin. Thus, for purposes of this analysis, the MSCP preservation goal is 140,130.
3. The Biological Opinion for the County Subarea Plan outlines a conservation level of 54% of potential foraging habitat for golden eagle (i.e., 91,397 of 170,416 acres as identified in the Subarea Plan). The GIS calculation of suitable golden eagle habitat within the Subarea Plan boundary, shown in Table 4, is 169,879 acres. Using the Biological Opinion's stated conservation level of 54%, total conservation within the County Subarea Plan amounts to 91,107 of 169,879 acres of suitable golden eagle habitat.

Table 2
Vegetation Communities within the MSCP Plan Crosswalked with Holland 1986

MSCP Plan Vegetation Community	Holland Vegetation Community	Inside MHPA	Outside MHPA	Grand Total
Coastal Sage Scrub	Diegan Coastal Sage Scrub	80,582 (71,274)	34,486	115,068
Chaparral	Chamise Chaparral	3,527	1,461	4,988
	Chaparral	41,438	24,167	65,605
	Flat-topped Buckwheat	0	27	27
	Granitic Chamise Chaparral	41	26	67
	Granitic Northern Mixed Chaparral	1,196	1,961	3,157
	Granitic Southern Mixed Chaparral	418	2,839	3,256
	Mafic Southern Mixed Chaparral	0	155	155
	Northern Mixed Chaparral	150	1,854	2,004
	Scrub Oak Chaparral	123	10	133
	Southern Mixed Chaparral	13,912	18,102	32,015
	Total	*60,804 (54,945)*	*50,602*	*111,406*
Coastal Sage-Chaparral Scrub	Coastal Sage-Chaparral Scrub	1,923 (1,490)	2,286	4,209

Table 2
Vegetation Communities within the MSCP Plan Crosswalked with Holland 1986

MSCP Plan Vegetation Community	Holland Vegetation Community	Inside MHPA	Outside MHPA	Grand Total
Grassland	Non-Native Grassland	3,188	8,303	11,491
	Native Grassland	28	131	159
	Valley and Foothill Grassland	7,336	8,402	15,738
	Valley Needlegrass Grassland	229	447	676
	Total	*10,782(9,770)*	*17,283*	*28,065*
Oak Woodland	Coast Live Oak Woodland	448	46	494
	Dense Coast Live Oak Woodland	2,447	2,018	4,466
	Engelmann Oak Woodland	1	2	3
	Oak Woodland	42	--	42
	Open Engelmann Oak Woodland	286	410	696
	Total	*3,224 (2,651)*	*2,476*	*5,700*
Total Golden Eagle Habitat		**157,315 (140,130)**	**107,133**	**264,448**

Note: Acreages within parentheses are taken from the MHPA Conserved column in Table 3-3 of the MSCP Plan.

Table 3
Vegetation Communities within the MSCP Plan

MSCP Plan Vegetation Community	Inside MHPA (acres)	Outside MHPA (acres)	Grand Total (acres)
Coastal Sage Scrub	80,582 (71,274)	34,486	115,068
Chaparral	60,804 (54,945)	50,602	111,406
Coastal Sage-Chaparral Scrub	1,923 (1,490)	2,286	4,209
Grassland	10,782(9,770)	17,283	28,065
Oak Woodland	3,224 (2,651)	2,476	5,700
Total Golden Eagle Habitat	**157,315 (140,130)**	**107,133**	**264,448**

Note: Acreages within parentheses are taken from the MHPA Conserved column in Table 3-3 of the MSCP Plan. The remaining acreages are from the San Diego County MSCP mapping effort (SANDAG 1995).

Table 4
Vegetation Communities within the County Subarea Plan

MSCP Plan Vegetation Community	Inside MHPA (acres)	Outside MHPA (acres)	Grand Total (acres)
Coastal Sage Scrub	49,935 (44,088)	21,175	71,110
Chaparral	43,744 (39,921)	36,098	79,842
Coastal Sage-Chaparral Scrub	1,525 (1,369)	1,734	3,259
Grassland	4,026 (3,493)	6,559	10,585

Table 4
Vegetation Communities within the County Subarea Plan

MSCP Plan Vegetation Community	Inside MHPA (acres)	Outside MHPA (acres)	Grand Total (acres)
Oak Woodland	2,708 (2,236)	2,374	5,082
Total Golden Eagle Habitat	**101,939 (91,107)**	**67,940**	**169,879**

Note: The acreages in parentheses for each vegetation community were obtained by multiplying the grand total for each vegetation community by the percentage of MSCP vegetation community conserved for the unincorporated portion of the County as outlined in Table 3-1 of the MSCP Plan (1998). These acreages represent the MHPA Conserved acreages shown in Table 3-1 of the MSCP Plan and Total Goal from Table 1-2 of the County Subarea Plan.

MSCP-Defined Golden Eagle Suitable Habitat – Current Preserve as of October 2015

1. Based on the methodology described above, Dudek calculated the current amount of golden eagle habitat within the MSCP Preserve and the amount of golden eagle foraging habitat that future developments within the MSCP planning area will contribute to the Preserve over the life of the MSCP. These acreages were used to determine if the contributions to the MSCP designated Preserve were on track to meet or exceed the 53% target.
2. As discussed, to determine the amount of golden eagle foraging habitat currently set aside as Preserve, the MSCP Plan vegetation mapping was overlaid with current HabiTrak data.
3. Table 5 provides the acreages of golden eagle habitat gained within the entire MSCP Plan area as calculated in HabiTrak for both inside and outside of the MHPA Preserve. As of October 2015, the total amount of MSCP golden eagle habitat preserved is estimated to be 90,856 acres – approximately 49,274 acres short of the goal of 140,130 acres.
4. Table 6 provides the same calculations for the County Subarea Plan. As of October 2015, the total amount of MSCP golden eagle habitat preserved is estimated to be 65,615 acres — approximately 25,492 acres short of the goal of 91,107 acres.
5. Although "outside the MHPA" does not count toward the 53% preservation goal, additional habitat "outside the MHPA" has been set aside as Preserve in the amount of 19,941 acres and 18,304 acres in the MSCP and County Subarea Plans, respectively.

Table 5
HabiTrak Gain within the MSCP Plan Area

Vegetation Community	HabiTrak Gain Inside MHPA Preserve (acres)	HabiTrak Gain Outside MHPA Preserve (acres)	Total Gain
Coastal Sage Scrub	41,849	7,962	49,811
Chaparral	40,970	8,770	49,740
Coastal Sage–Chaparral Scrub	1,277	1,094	2,371

Table 5
HabiTrak Gain within the MSCP Plan Area

Vegetation Community	HabiTrak Gain Inside MHPA Preserve (acres)	HabiTrak Gain Outside MHPA Preserve (acres)	Total Gain
Grassland	5,521	1,683	7,204
Oak Woodland	1,239	432	1,671
Total HabiTrak Gain	**90,856**	**19,941**	**110,797**

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the Preserve conservation goal. HabiTrak data as of October 2015.

Table 6
HabiTrak Gain within the County Subarea Plan Area

Vegetation Community	HabiTrak Gain Inside MHPA Preserve (acres)	HabiTrak Gain Outside MHPA Preserve (acres)	Total Gain
Coastal Sage Scrub	28,545	7,383	35,928
Chaparral	32,937	8,320	41,257
Coastal Sage–Chaparral Scrub	1,010	1,059	2,069
Grassland	2,066	1,113	3,179
Oak Woodland	1,057	429	1,486
Total HabiTrak Gain	**65,615**	**18,304**	**83,919**

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the Preserve conservation goal. HabiTrak data as of October 2015.

MSCP Defined Golden Eagle Suitable Habitat – Future Preserve

1. As noted above, the MSCP Plan anticipates that, over the life of the MSCP Plan, 53% of the golden eagle foraging habitat within the MSCP planning area would be placed permanently into the Preserve. The mechanics of this process are fairly straightforward: Each time a landowner applies for permits to develop within the MSCP planning area, that landowner must dedicate a certain amount of property to the Preserve. This way, each new development project contributes to and augments the Preserve, allowing it to increase in size as contemplated, until it ultimately reaches or exceeds the Plan's habitat conservation goals.

2. As indicated above, to meet the MSCP's goal of preserving 53% of golden eagle foraging habitat, an additional 49,274 acres of such habitat must be placed into the MSCP Preserve in the future.

3. The MSCP Preserve is still in the process of being assembled. That is, land is still being added to the MSCP Preserve with each new development within the MSCP planning area. For example, 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 (Table 7). Of those 64,878 acres, 35,356 acres are within the County Subarea Plan area (Table 8). When the owners of this land submit development proposals to the County, those acres of habitat would move automatically into the Preserve.

4. Several of the Take Authorized Areas (identified for future development in the MSCP Plan and County Subarea Plan) located within the County MSCP Subarea Plan area have been converted entirely to MSCP Preserve. These areas include Hidden Valley, Las Montanas, Otay Ranch 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). All of these projects contribute to additional suitable golden eagle habitat being preserved above and beyond what was originally anticipated in the MSCP Plan.

Table 7
Golden Eagle Habitat within the MSCP Plan – Current and Future Acreages

	Inside MHPA Preserve (acres)			Outside MHPA Preserve (acres)		
Vegetation Community	*Gain to Date*	*Preserve Remaining to Date*	*Total Projected Preserve*	*Gain to Date*	*Habitat Remaining to Date*	*Total Projected Golden Eagle Habitat Outside of Preserve*
Coastal Sage Scrub	41,849	37,916	79,765	7,962	24,015	31,977
Chaparral	40,970	19,445	60,415	8,770	37,886	46,656
Coastal Sage–Chaparral Scrub	1,277	627	1,904	1,094	1,049	2,143
Grassland	5,521	4,939	10,460	1,683	10,784	12,467
Oak Woodland	1,239	1,951	3,190	432	1,898	2,330
Total	**90,856**	**64,878**	**155,734**	**19,941**	**75,632**	**95,573**
Total Potential Golden Eagle Habitat	**155,734**			**95,573**		

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the Preserve conservation goal. HabiTrak data as of October 2015. Future acreage includes the Proposed Project.

Table 8
Golden Eagle Habitat within the County Subarea Plan – Current and Future Acreages

	Inside MHPA Preserve (acres)			Outside MHPA Preserve (acres)		
Vegetation Community	*Gain to Date*	*Preserve Remaining to Date*	*Total Projected Preserve*	*Gain to Date*	*Habitat Remaining to Date*	*Total Projected Golden Eagle Habitat Outside of Preserve*
Coastal Sage Scrub	28,545	20,817	49,362	7,383	12,496	19,879
Chaparral	32,937	10,555	43,492	8,320	24,920	33,240
Coastal Sage–Chaparral Scrub	1,010	503	1,513	1,059	545	1,604
Grassland	2,066	1,864	3,930	1,113	4,170	5,283

Table 8
Golden Eagle Habitat within the County Subarea Plan – Current and Future Acreages

Vegetation Community	Inside MHPA Preserve (acres)			Outside MHPA Preserve (acres)		
	Gain to Date	*Preserve Remaining to Date*	*Total Projected Preserve*	*Gain to Date*	*Habitat Remaining to Date*	*Total Projected Golden Eagle Habitat Outside of Preserve*
Oak Woodland	1,057	1,617	2,674	429	1,800	2,229
Total	**65,615**	**35,356**	**100,971**	**18,304**	**43,931**	**62,235**
Total Potential Golden Eagle Habitat	**100,971**			**62,235**		

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the original target Preserve conservation goal. However, habitat gain outside the MHPA planning area represents development converted to MSCP Preserve and can be counted toward total MSCP habitat preserved. HabiTrak data as of October 2015. Future acreage includes the Proctor Valley Village 14 Proposed Project.

Results – MSCP Plan

1. The MSCP Preserve assembled as of October 2015 consists of 90,856 acres of golden eagle foraging habitat. The remaining MSCP Preserve within the original MHPA includes an additional 64,878 acres of golden eagle foraging habitat, resulting in a total of 155,734 acres (59%) of golden eagle foraging habitat preserved in the MPHA (Table 1).
2. Given that the October 2015 MSCP Preserve will add 19,941 acres of golden eagle foraging habitat outside the MHPA, the MSCP Plan is projected to result in 175,675total acres (66%) of Preserve (Table 1).
3. The MSCP Plan is, therefore, projected to exceed the 53% goal of 140,130 acres by approximately 15,600 acres of golden eagle habitat within the original MHPA, and approximately 35,550 acres of golden eagle habitat total (Table 1).

Results – County Subarea Plan

1. The County's Subarea Plan's Preserve assembled to date currently consists of 65,615 acres of golden eagle foraging habitat. The remaining Subarea Plan Preserve within the original MHPA consists of 35,356 acres of golden eagle foraging habitat. When these figures are combined, the MSCP Plan is projected to result in 100,971 acres (59%) of golden eagle foraging habitat preserved in the MPHA (Table 1).
2. The October 2015 MSCP Preserve gains outside the MHPA consist of 18,304 acres of golden eagle foraging habitat. This figure, when added to the existing total, increases the MSCP Plan's projected golden eagle foraging habitat to 119,275 total acres (70%) of Preserve (Table 1).

3. The County's Subarea Plan is, therefore, projected to exceed the 54% goal of 91,107 acres by approximately 9,900 acres of golden eagle habitat within the original MHPA, and more than 28,000 acres of golden eagle habitat total (Table 1).
4. The County's Subarea Plan has contributed more than any other subarea to the Preserve, as evidenced by contributing 65,615 acres of the 90,856 acres preserved to date in the overall MSCP. In addition, the County's Subarea Plan contributes to most of the habitat preserved over and above the 53% MSCP target (Table 1).

Literature Cited

County of San Diego. 1997. Multiple Species Conservation Plan. County of San Diego Subarea Plan. Adopted October 22, 1997. Prepared by the County of San Diego in conjunction with the U.S. Fish and Wildlife Service and California Department of Fish and Game.

County of San Diego. 2015. *Multiple Species Conservation Program South County Subarea Plan Annual Report (Year 17)*. Reporting Period: January 1, 2014–December 31, 2014. April 22, 2015. Accessed December 16, 2015. http://www.sandiegocounty.gov/content/dam/sdc/parks/MSCP/Documents/MSCP%20Annual%20Report%202014%20Final.pdf.

MSCP (Multiple Species Conservation Program). 1998. *Final MSCP Plan*. Prepared by MSCP Policy Committee and MSCP Working Group. San Diego, California. http://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/SCMSCP/FinalMSCPProgramPlan.pdf.

SANDAG (San Diego Association of Governments). 1995. Vegetation map GIS layer.

SANDAG. 2015. MSCP_HABITRAK Ecology Regional MSCP Habitrak Data (loss & gain). SANDAG SANGIS GIS database. Last updated October 15, 2015. Accessed November 2015. https://www.pdffiller.com/en/project/49441285.htm?form_id=50363154.

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Memorandum

April 27, 2016

To: David Hubbard and Mark Dillon
Dillon, Gatzke & Ballance LLP

From: Jeff Smith, Jeff Zirpoli, Judd Howell, and Scott Terrill

Subject: Otay Ranch Village 14 Land Exchange Golden Eagle Foraging Habitat Assessment

The proposed Otay Ranch Village 14 and Preserve Project (Project) is located in the Proctor Valley portion of the 23,000-acre Otay Ranch master planned community, between Chula Vista and Jamul. As currently proposed, the Project would confine development to an approximately 592-acre footprint in Otay Ranch Village 14, and convert to preserve lands all of the Project applicant's and State of California's approved development land uses in Otay Ranch Planning Areas 16 and 19 (Dudek 2015).

The proposed Project entitlements include a boundary adjustment to the preserve associated with the Multiple Species Conservation Program (MSCP) Plan (County of San Diego 1998) and Otay Ranch Resource Management Plan (City of Chula Vista and County of San Diego 1993, Chula Vista City Council and Planning Commission 1996), which will add 268.5 acres previously approved for development in Village 14 and Planning Areas 16 and 19 to the existing preserve. In addition, prior to, or concurrently with, approval of the entitlements for the Project, the Project applicant and State of California will exchange 278 acres of land located in Otay Ranch Village 14 and 278 acres of land located in Planning Area 16. The intent of the exchange is to enable the State of California to acquire ownership of property in Planning Area 16 that is biologically superior to the acreage currently owned by the State in the Village 14 area. Dudek (2015) previously analyzed the overall biological equivalency of the exchange and boundary adjustment parcels as required by Section 5.4.2 of the MSCP; however, given the recent U.S. Geological Survey focus on golden eagles (*Aquila chrysaetos*) in the Project area, the Project applicant sought to supplement the Dudek analysis with a review of the comparative value of the golden eagle foraging habitat on the exchange parcels. This report addresses that topic by summarizing insight gained from an initial geographic information system (GIS) desktop analysis, followed by ground surveys to verify relevant habitat characteristics and evidence of prey occurrences.

Within the boundaries of the entire Project area, Figure 1 depicts (1) the 278 acres in Planning Area 16 to be given by the Project applicant to the State in the exchange (yellow vertical lines), (2) the 278 acres in the Village 14 area being given by the State to the Project applicant in the exchange (white vertical lines), (3) the boundary

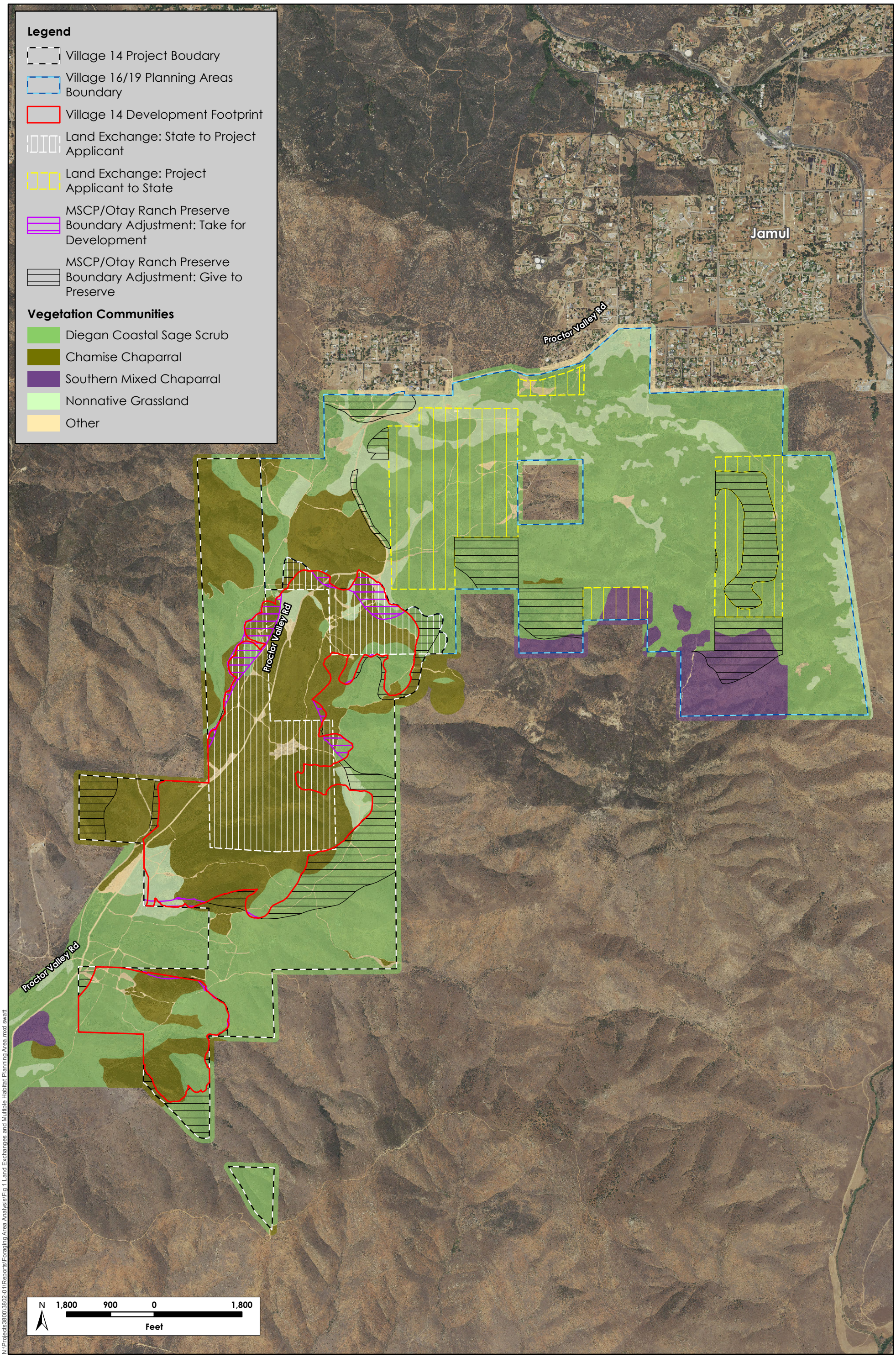

Figure 1. Land Exchange and Multiple Species Conservation Program (MSCP)/Otay Ranch Preserve Boundary Adjustment Proposed as Part of the Otay Ranch Village 14 Project in Relation to the Current Distribution of Primary Vegetation Communities

Otay Ranch Village 14 Land Exchange Eagle Foraging Area Analysis (3802-01)

April 2016

H. T. HARVEY & ASSOCIATES

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adjustment that will result in the net conversion of 268.5 acres of land from approved development to preserve (black horizontal lines showing property to be "given" to the preserve and purple horizontal lines showing the property to be "taken" from the preserve), and (4) the underlying vegetation communities.

The land exchange and boundary adjustment involve primarily Diegan coastal sage scrub and chamise (*Adenostoma fasciculatum*) chaparral vegetation community types, with smaller acreages of southern mixed chaparral, nonnative annual grassland, and miscellaneous landscape areas (Figure 1). Following is a summary of the primary vegetation community exchanges that would occur as a result of the land exchange and boundary adjustment.

1) The land exchange would transfer 278 acres from the Project applicant to the State, comprising 222.4 acres of coastal sage scrub, 34.1 acres of nonnative annual grassland, 13.3 acres of southern mixed chaparral, and 8.2 acres of miscellaneous land in Planning Areas 16 and 19.

2) The land exchange would transfer 278 acres from the State to the Project applicant, comprising 225.0 acres of chamise chaparral, 31.4 acres of coastal sage scrub, 7.6 acres of nonnative annual grassland, and 14 acres of miscellaneous land, all located in Village 14 except for a stretch of existing roadway running north through Planning Areas 16/19.

3) Once the land exchange occurs, the boundary adjustment in Planning Areas 16/19 would result in the Project applicant converting an additional 169.8 acres to preserve, comprising 132.2 acres of coastal sage scrub, 26.8 acres of southern mixed chaparral, 7.4 acres of nonnative annual grassland, and 3.4 acres of miscellaneous land.

4) Once the land exchange occurs, the boundary adjustment in Village 14 would result in the Project applicant converting an additional 142.3 acres to preserve, comprising 95.9 acres of coastal sage scrub, 41.6 acres of chamise chaparral, 2.5 acres of nonnative annual grassland, and 2.3 acres of miscellaneous land.

5) Once the land exchange occurs, the boundary adjustment in Village 14 would result in the Project applicant gaining 43.6 acres for development purposes, comprising 10.6 acres of coastal sage scrub, 26.0 acres of chamise chaparral, 5.4 acres of nonnative annual grassland, and 1.6 acres of miscellaneous land.

The land exchange with the State involves relatively few, mostly larger blocks of land (up to 180–185 acres), whereas the boundary adjustment involves many smaller parcels ranging in size from <1 to 75.5 acres (Figure 1).

Habitat Assessment

The focus of our initial GIS desktop analysis was further qualifying Dudek's (2015) delineation of chamise chaparral based on the relative density of vegetation evident in recent (April 2015) Google Earth imagery, and evaluating other relevant landscape characteristics, such as apparent levels of existing human-caused disturbance and soil characteristics that relate to the potential for occurrence of important eagle prey species. In the Village 14 area, we delineated areas where the extent of dense shrub vegetation appeared incompatible with eagle foraging

(Figure 2). We then conducted ground surveys over a two-day period in March 2016 to verify the vegetation characteristics of these dense shrub areas and, if needed, adjust our initial delineations.

During the field surveys, we also walked transects through representative areas of chamise chaparral, coastal sage scrub, intermixed grass/forb communities, nonnative annual grassland, and southern mixed chaparral to garner first-hand understanding of the characteristics and quality—relative to the potential to support eagle foraging—of landscape areas involved in the proposed land exchange and boundary adjustment. We accomplished this by driving and walking through relevant areas, recording observations, and mapping important habitat variants and characteristics that we observed. We distributed our survey effort to provide representative coverage of relevant land-exchange areas and primary habitat types. Our focus included verifying Google Earth-based impressions of relative vegetation density/condition and existing levels of human-caused habitat disturbance, and assessing the relative prevalence of signs indicating the presence of important eagle prey species. Eagle prey species of primary interest in the Project area were desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), black-tailed jackrabbit (*Lepus californicus*), and California ground squirrel (*Spermophilus beecheyi*) (Hunsicker 1972, Hunt et al. 1999, Kochert et al. 2002, Bittner 2015).

Assessment Results

During the field surveys, we found ostensibly similar evidence (pellet abundance) of lagomorph presence in coastal sage scrub and chamise chaparral, but confirmed a significant difference in the apparent accessibility of those prey species to eagles in the two habitats. Rabbits and hares seek protection from predators by sheltering under shrubs or logs, in rock piles, or in tall grasses, but generally forage in more open areas where nutritious grass/forb vegetation is found (Fitch 1947, Knick and Dyer 1997, Marín et al. 2003). Based on the distribution and abundance of pellets (both old and relatively fresh), the coastal sage scrub and intermixed grasslands in the Planning Area 16/19 exchange and boundary adjustment areas provide sufficient protective shrub cover and forage to accommodate a high abundance of both jackrabbits and the smaller rabbits, with habitat structure that is highly suited to foraging by golden eagles. Conversely, although the level of apparent lagomorph abundance was often comparable to that found in coastal sage scrub and areas of sparse chamise chaparral, we confirmed that our initial delineations effectively represented areas in Village 14 where the chamise and other shrub cover was generally too dense and tall to support eagle foraging (Figure 2). Dense chaparral does not support foraging golden eagles, because the birds cannot maneuver effectively to capture prey in such dense vegetation (Marzluff et al. 1997, Kochert et al. 2002).

The vegetation density and stature may be too great to support eagle foraging within stands of dense chaparral, but it is important to recognize that such stands provide shelter and breeding sites for lagomorphs that periodically forage in and disperse across adjacent open areas where they are accessible to foraging golden eagles. Landscapes that support a patchy mosaic of smaller stands of dense shrubs intermixed with sufficient open grass/forb areas can provide good foraging habitat for eagles. In areas where large patches of dense chaparral predominate, however, the potential for eagle foraging is reduced to limited areas of transitional edge habitat.

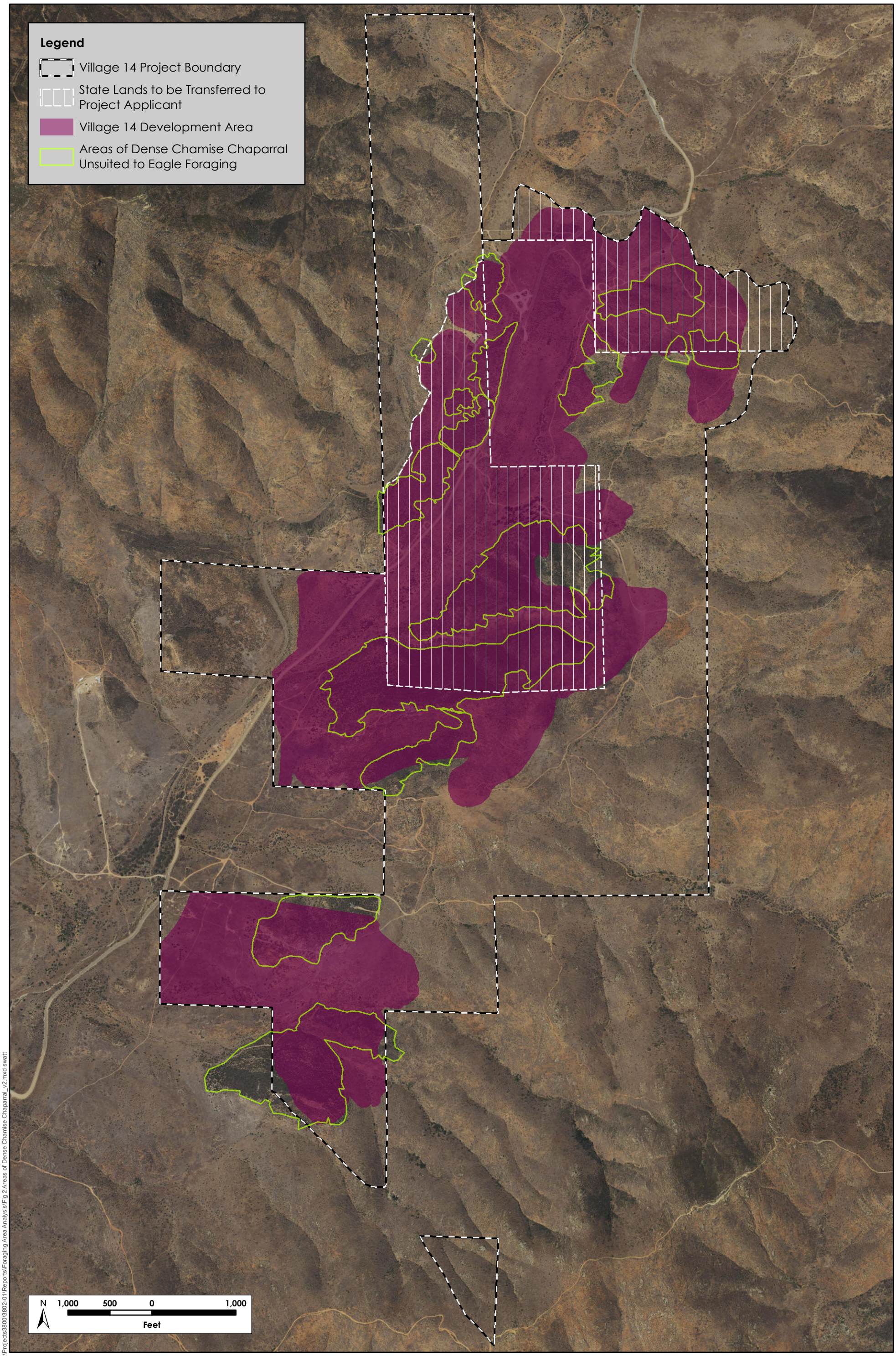

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Figure 2. Areas of Dense Chamise Chaparral in the Proposed Otay Ranch Village 14 Project Area in Relation to the Proposed State Land Exchange

Otay Ranch Village 14 Land Exchange Eagle Foraging Area Analysis (3802-01)

April 2016

H. T. HARVEY & ASSOCIATES
Ecological Consultants

This circumstance applies to much of the State land that will be transferred to the Project applicant and much of the overall 592-acre Village 14 development footprint (Figure 2). Our assessment indicated that approximately 37% (101.7 acres) of the State land that will be exchanged to become part of the Village 14 development, and approximately 30% (176.2 acres) of the overall 592-acre Village 14 development footprint, consists of dense chamise chaparral or other shrub cover that is not suited to foraging by golden eagles (Figure 2). We do note, however, that the relative density and stature of shrub cover in the various polygons identified in Figure 2 varies, and that especially some of the smaller, less-dense patches in the northern portion of the development area could support occasional eagle foraging attempts.

In comparison, the land in Planning Areas 16/19 that will be transferred to the State or converted to preserve comprises primarily the more ideal—from an eagle foraging perspective—coastal sage scrub configuration consisting of mosaics of diverse shrubs distributed sparsely and in smaller stands and broadly intermixed with patches of open grass/forb communities. Approximately 38 acres of the land that will be transferred to the State or converted to preserve is classified as southern mixed chaparral (Figure 1); however, the ~13-acre patch that will be transferred to the State actually consists of relatively open shrub cover more characteristic of coastal sage scrub, and only about one third of the ~25-acre patch classified as southern mixed chaparral that will be transferred to preserve comprises dense chaparral unsuited to foraging by golden eagles.

The Planning Area 16/19 lands to be exchanged to the State and converted to preserve also include patches of nonnative annual grassland in the northwestern sector (Figure 1). During the field surveys, we observed relatively more prey sign in shrub habitats, including patches of southern mixed chaparral, than in nonnative annual grassland. This impression was probably misleading, however, because it was much more difficult to detect scat in the lush growth of tall, thick grasses that resulted from the preceding, unusually wet winter. Moreover, the dense, tall shrubs characteristic of southern mixed chaparral effectively preclude golden eagle foraging, whereas the grasslands provide suitably open foraging habitat for eagles and support another important prey species, the California ground squirrel. During our surveys, we detected ground squirrels only in grazed areas classified as nonnative annual grassland. A few acres of State land classified as nonnative annual grassland will be transferred to the Project applicant in the Village 14 area; however, in exchange the State will receive more than three times as much acreage in Planning Area 16 that will contribute to preserving several larger contiguous patches of grassland (Figure 1). By maintaining the contiguity of these larger grassland patches, the proposed land exchange and boundary adjustment will further enhance the value of the preserve for golden eagles and other grassland-dependent species.

The coastal sage scrub and grassland areas in Planning Areas 16/19 proposed for transfer to the State and preserve, as well as the additional foothill coastal sage scrub areas in Village 14 that will be newly dedicated to preserve, also feature soils that are more compatible with occurrence of burrowing California ground squirrels. Ongoing research in San Diego County, as well as insight from other work in the species' range, indicates that California ground squirrels prefer to burrow in sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007, Wisinski et al. 2013). Most of the proposed Village 14 development area is underlain with soils classified as *Olivenhain cobbly loam* and *San Miguel Exchequer rocky silt loam*, which are not compatible with ground squirrel burrowing, because they contain a relatively high clay content and are very cobbly, as opposed to sandy,

in nature (Natural Resources Conservation Service 2015). In contrast, the coastal sage scrub and annual grassland habitats to be transferred to the State in Planning Areas 16/19, and that will be newly allocated to the preserve in Village 14, are underlain primarily by soils such as *Friant rocky fine sandy loam* and *Placentia sandy loam* (Natural Resources Conservation Service 2015), which provide the sandier soils that the squirrels prefer for burrowing.

Although some of the land to be transferred to the State in Planning Area 16 has been degraded by OHV and other recreational activity, similar levels of disturbance are evident in areas that the State will transfer to the Project applicant in the Village 14 area. Furthermore, no public roads currently traverse Planning Areas 16/19 and implementation of MSCP/Otay Ranch preserve management provisions is expected to restore and maintain the landscape as a productive area for eagles and their prey.

The primary land exchange will also benefit golden eagles by consolidating a large contiguous patch of undeveloped, preserve habitat in Planning Areas 16/19 that will maintain at least a ¾-mile-wide open-space corridor between Village 14 and the existing Echo Valley residential area near Jamul to the north (Figure 3). Preserving this open corridor will be important for maintaining connectivity for eagles between the San Miguel Mountain/San Diego National Wildlife Refuge historic nesting area and the Jamul Mountains potential nesting area in the midst of the core Otay Ranch Preserve. Although eagles may occasionally fly over the new Village 14 development, they will more likely avoid the development and seek undeveloped habitat to move through. Furthermore, it is unlikely that the undeveloped area expected to remain around San Miguel Mountain, consisting primarily of federal land managed as part of San Diego National Wildlife Refuge, by itself will constitute a sufficient area to support reestablishment of a breeding territory centered on this previously occupied nesting area (last confirmed successful nesting in 2004; last occupied by an adult pair in 2007, when the previous natural nest burned and its supportive ledge collapsed; no confirmed nesting to date despite a new artificial platform being installed in 2014; Martin and Terp 2014, U.S. Fish and Wildlife Service et al. 2012). If limited to this area, the eagle pair's home range would be constrained to approximately 15 square miles, whereas home ranges in western San Diego County are thought to more typically encompass 20–50 square miles (Dixon 1937) and home ranges can be much larger (>100 square miles) in desert areas farther east in the County (e.g., see Katzner et al. 2012).

Discussion and Conclusions

Our assessment indicated that the land exchange represents a benefit to golden eagles, because of the relative habitat quality involved and expected benefits from reducing fragmentation of the undeveloped landscape. Diegan coastal sage scrub and moderately grazed, nonnative annual grassland are the highest value foraging habitats for golden eagles in the Project area, because they provide optimal habitat for a variety of favored prey species and have structural characteristics that are suited to foraging by golden eagles. Although it may harbor relatively high abundances of lagomorph prey, dense chaparral does not support foraging golden eagles because the birds cannot maneuver effectively to capture prey in such dense vegetation. In contrast, relatively open coastal sage scrub, areas of sparse chamise chaparral, and areas where smaller patches of dense shrubs are broadly intermixed with open grass/forb or low-shrub areas represent ideal foraging habitat for golden eagles. The latter areas combine sufficient shrub cover needed to shelter prey species with open grass/forb areas that provide both

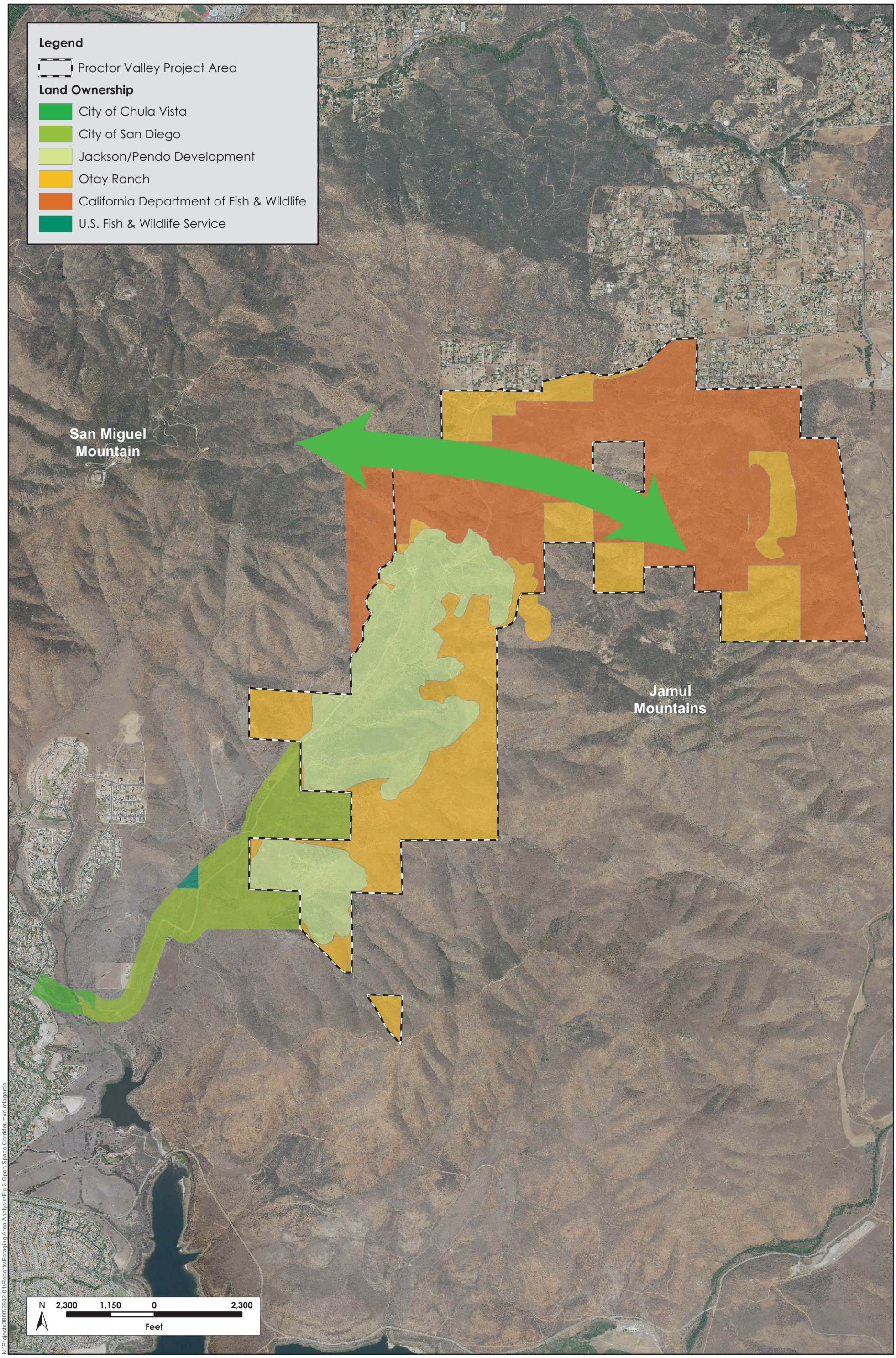

Figure 3. Illustration of the Open Space Corridor that the Proposed Otay Ranch Village 14 and State Land Exchange Would Maintain and Could Serve as an Important Movement Corridor for Golden Eagles

Otay Ranch Village 14 Land Exchange Eagle Foraging Area Analysis (3802-01)

April 2016

H. T. HARVEY & ASSOCIATES
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nutritious foraging areas for prey species and accessible foraging areas for golden eagles. Open grasslands also provide foraging areas for golden eagles by supporting jackrabbits in tall-grass areas and ground squirrel colonies in areas where livestock grazing maintains lower-stature grasses.

The State will receive primarily coastal sage scrub habitat, as well as notable patches of nonnative annual grassland, in Planning Areas 16/19 (Figure 1), which will augment the MSCP/Otay Ranch preserve in this area with additions favorable to foraging golden eagles. Many of the smaller boundary-adjustment patches will also fill in gaps or be contiguous with coastal sage scrub habitat, thereby further helping to preserve larger patches of relatively high-quality foraging habitat for golden eagles in both Village 14 and Planning Areas 16/19 (Figure 1). Virtually all of the land in Planning Areas 16/19 to be gained by the State is potential eagle foraging habitat, consisting of sparsely and patchily distributed shrubs, which provide necessary cover for rabbits and hares, intermixed with relatively extensive patches of open grass/forb communities, which provide necessary foraging habitat for rabbits and hares in areas that are readily accessible to foraging golden eagles. The sparse and patchy distribution of shrubs intermixed with open grass/forb areas and adjacent patches of grassland in Planning Areas 16/19 also support a more diverse mix of favored prey than the extensive chamise chaparral habitats found in the Village 14 area.

In exchange, the land areas proposed for transfer from the State to the Project applicant to become part of the Village 14 development support mostly chamise chaparral, including sizeable expanses of dense chaparral, which is less favorable foraging habitat for golden eagles because of the taller and denser vegetation. In addition, much of the relatively open habitat in the Village 14 exchange area is only marginally suited to foraging eagles because of proximity to Proctor Valley Road (although animals killed by vehicles can be an attractant for scavenging eagles).

In summary, by all measures of interest, the land exchange with the State and MSCP/Otay Ranch preserve boundary adjustment proposed as part of the Project appear to represent a favorable scenario for golden eagles that may forage in Proctor Valley and may choose to nest again on San Miguel Mountain or in the Jamul Mountains. The land exchange and boundary adjustment will:

- preserve more coastal sage scrub and annual grassland habitat underlain with favorable sandy soils (rather than the predominantly dense chamise chaparral underlain with rocky soils within the State property being transferred to the Project applicant), which in combination translates to both more habitat for key prey species and more accessible foraging habitat for golden eagles;

- consolidate the development to reduce habitat fragmentation and preserve foraging habitat in an area that is not bisected by a primary-circulation public roadway and in which managing the adverse influence of human recreational activity, especially motorized activity, is likely to be more efficacious; and,

- consolidate the development in a manner that maintains a relatively broad open-space corridor to facilitate eagle movement between the San Miguel Mountain and Jamul Mountains areas.

References

Bittner, D. 2015. Director, Wildlife Research Institute, Ramona, California. Personal communication on December 11, 2015—conversation with Jeff Smith of H. T. Harvey & Associates regarding the diet of golden eagles in San Diego County.

City of Chula Vista and County of San Diego. 1993. Otay Ranch Resource Management Plan. Chula Vista, California. Adopted by the County of San Diego Board of Supervisors on October 28, 1993.

Chula Vista City Council and Planning Commission. 1996. Otay Ranch Phase 2 Resource Management Plan. Chula Vista, California. Adopted by the County of San Diego Board of Supervisors on June 4, 1996.

County of San Diego. 1998. Multiple Species Conservation Program: Final MSCP Plan. San Diego, California.

Dixon, J. B. 1937. The golden eagle in San Diego County, California. The Condor 39:49–56.

Dudek. 2015. Draft Biological Technical Report for the Proctor Valley Village 14 and Preserve, San Diego County, California. September 2015. Encinitas, California. Prepared for the County of San Diego, Planning and Development Services, San Diego, California, and Jackson Pendo Development, San Diego, California.

Fitch, H. S. 1947. Ecology of a cottontail rabbit (*Sylvilagus audubonii*) population in central California. California Fish and Game 33:159–184.

Hunsicker, G. R. 1972. Nesting Behavior of Golden Eagle, *Aquila chrysaetos*, in San Diego County, California. MS thesis. University of California Riverside, Riverside, California.

Hunt, W. G., R. E. Jackman, T. L. Brown, and L. Culp. 1999. A Population Study of Golden Eagles in the Altamont Pass Wind Resource Area: Population Trend Analysis 1994–1997. Predatory Bird Research Group, University of California, Santa Cruz, California. Prepared for the National Renewable Energy Laboratory, Golden, Colorado.

Katzner, T., P. Turk, A. Duerr, D. Brandes, T. Miller, and M. Lanzone. 2012. Golden Eagle Home Range, Habitat Use, Demography and Renewable Energy Development in the California Desert. Interim report submitted to the U.S. Bureau of Land Management, California State Office, Sacramento, California.

Knick, S. T., and D. L. Dyer. 1997. Distribution of black-tailed jackrabbit habitat determined by GIS in southwestern Idaho. Journal of Wildlife Management 61:75–85.

Kochert, M. N., C. L. Steenhof, and E. H. Craig. 2002. Golden Eagle *Aquila chrysaetos*. No 684 *in* A. Poole and F. Gill, editors, The Birds of North America. The Birds of North America, Inc., Philadelphia, Pennsylvania.

Lenihan, C. M. 2007. The Ecological Role of the California Ground Squirrel (*Spermophilus beecheyi*). Ph.D. Dissertation. University of California, Davis, California.

Marín, A. I., L. Hernandez, and J. W. Laundre. 2003. Predation risk and food quantity in the selection of habitat by black-tailed jackrabbit (*Lepus californicus*): an optimal foraging approach. Journal of Arid Environments 55:101–110.

Martin, J., and J. Terp. 2014. Artificial nest platforms for golden eagles. Final Report for Grant Agreement No. 5001977. U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge, Jamul, California. Prepared for the San Diego Association of Governments, San Diego, California.

Marzluff, J. M., S. T. Knick, M. S. Vekasy, L. S. Schueck, and T. J. Zarriello. 1997. Spatial use and habitat selection of golden eagles in southwestern Idaho. Auk 114:673–687.

Natural Resources Conservation Service. 2015. Soil Classification. <http://www.nrcs.usda.gov/wps /portal/nrcs/main/soils/survey/class> Accessed April 2016.

[USFWS] U.S. Fish and Wildlife Service, California Department of Fish and Game, and San Diego Management and Monitoring Program. 2012. San Diego Multiple Species Conservation Program Status Report: 1997–2011. Appendix 2: MSCP Covered Animal Species Summary as of 12/31/2011. Carlsbad and San Diego, California. <http://sdmmp.com/Libraries/San_Diego_MSCP_Status_Report/Appendix2_MSCP_ StatusReport_Dec2012.sflb.ashx> Accessed April 2016.

Wisinski, C., J. P. Montagne, S. Marczak, D. M. Shier, L. A. Nordstrom, and R. R. Swaisgood. 2013. An Adaptive Management Approach to Recovering Burrowing Owl Populations and Restoring a Grassland Ecosystem in San Diego County. Institute for Conservation Research, San Diego Zoo Global, San Diego, California. Prepared for the San Diego Foundation, Otay Mesa Grassland Mitigation Fund.

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Memorandum

March 13, 2017

To: **David Hubbard**
Gatzke, Dillon & Ballance LLP

From: **Jeff Smith, Judd Howell, and Scott Terrill**

Subject: **Responses to Questions Posed by the County of San Diego Regarding the Otay Ranch Village 14 and Planning Areas 16/19 Project Golden Eagle Assessment**

The proposed Otay Ranch Village 14 and Planning Areas 16/19 Project (Project) encompasses 1,370.7 acres, including 86.9 acres of offsite improvement areas where Project-related development disturbance will occur. Of this total, 809.8 acres is proposed for development, including permanent and temporary impacts, offsite improvements, and roadways, utility corridors, and fuel management zones in what will otherwise remain open space. Conversely, at least 407.2 acres and potentially as much as 476.5 acres will be conserved as part of the overall MSCP/Otay Ranch Preserve, and an additional 84.3 acres will be designated as Limited Development Areas that will remain as open space. As defined in the MSCP, 97% of the Project landscape constitutes potential golden eagle foraging habitat, comprising Diegan coastal sage scrub, chaparral, and annual grassland habitats; however, approximately 11% of the proposed development area is not suited to eagle foraging because the chaparral is too dense.

Following are responses to specific questions posed by the County of San Diego about the Project and its potential to affect golden eagles. Note that we also inserted some additional questions and answers to provide comparable representation of the second artificial nest platform installed by the USFWS and BLM in 2013, which is located in the east-central Jamul Mountains.

1. **Confirm the distance between the former San Miguel Mountain nest site and the Project development boundary.**

   We do not have precise information concerning the locations of the historic nest sites used by golden eagles on San Miguel Mountain, none of which still exist in other than perhaps a decrepit remnant form. We do know, however, that there were three nests located in the same general vicinity as the artificial nest platform that the USFWS installed on the southeast flank of San Miguel Mountain in 2013 (D. Bittner personal communication, March 2017). The most recently used (2004) nest was located on another outcrop just below the artificial platform. This nest burned and the rock ledge it was on collapsed in the 2007 Harris. A second nest was located within 100 meters or less of the primary nest in the same general expanse of jumbled rocky outcrops. A third nest was located across the canyon to the southeast in another rocky outcrop area. These

nests either disappeared previously or were also burned in the Harris fire. Coarse measurements based on best-guess approximations of these historic nest locations places them within 3,065–3,541 feet from the nearest Project impact boundary (i.e., the nearest point where Project development will result in at least temporary human disturbance). Figure 1 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the estimated locations of these three historic San Miguel Mountain eagle nests.

2. **Confirm the distance between the former San Miguel Mountain nest site and the nearest proposed "human disturbance" as shown in the Project site plan.**

   As framed, the answer to this question is the same as for Question 1, in that we equate "project development boundary" with "nearest proposed human disturbance."

3. **Confirm that the San Miguel Mountain nest site platform was destroyed and has not been rebuilt or reestablished.**

   The natural nest that was last used (in 2004) by golden eagles in the San Miguel Mountain breeding territory was burned in the 2007 Harris fire, and at that time the rock ledge the nest was on also fractured and collapsed. The former eagle pair remained on territory but initiated no breeding attempts from 2005–2007, and then abandoned the territory after the fall 2007 fire. No former nests still exist, other than as perhaps decrepit remnants, and no new eagle nests have been built in this former nesting area, including on the artificial nest platform the USFWS installed in the area.

4. **Confirm that the San Miguel Mountain nest site meets the criteria of an "abandoned" or "inactive" nest.**

   There is no formal definition for what constitutes an "abandoned" golden eagle breeding territory (which may include several alternative nest sites—the historic case over the years in the San Miguel Mountain territory), but confirmation that no breeding-age pair of eagles has occupied a former breeding territory for 4 years or more is generally a strong indicator that the territory has been abandoned. The evidence at hand suggests that the former San Miguel breeding territory has not been occupied by a breeding pair of eagles since 2007. No known breeding attempt (meaning eggs were laid) has occurred on San Miguel Mountain since 2004 and all former nests either no longer exist or remain as at most decrepit, burned remnants; therefore, the need to distinguish between active or used (contains eggs or young) and inactive or unused (not used during the current breeding season) nests is moot.

5. **Confirm the distance between the USFWS artificial nesting platform on San Miguel Mountain and the nearest Project development boundary.**

   ~3,666 feet. Figure 2 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the artificial nest platform on San Miguel Mountain.

6. **Confirm the distance between the USFWS artificial nesting platform on San Miguel Mountain and the nearest proposed "human disturbance" as shown in the Project site plan.**

   As framed, the answer to this question is the same as for Question 5, in that we equate "project development boundary" with "nearest proposed human disturbance."

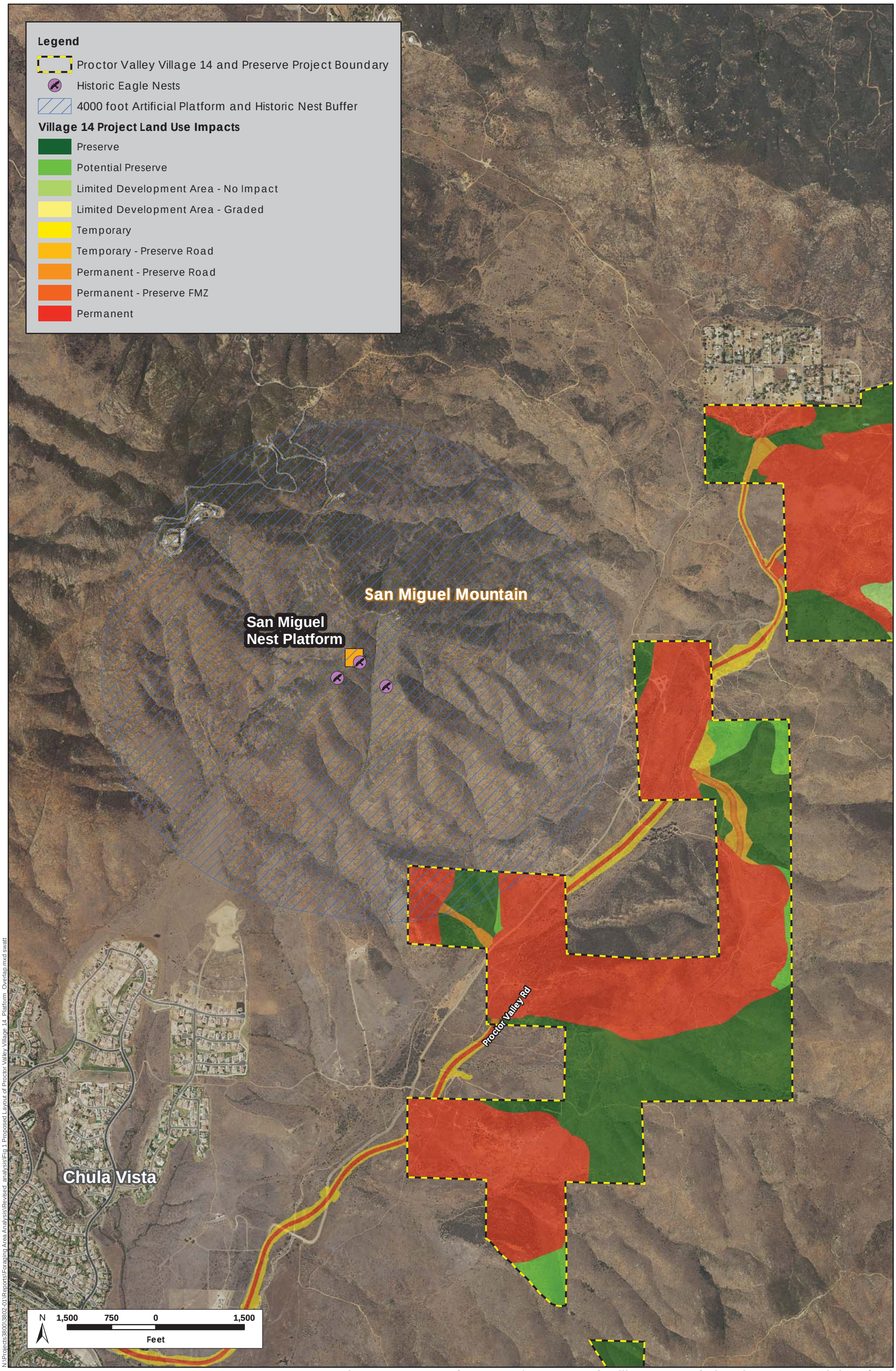

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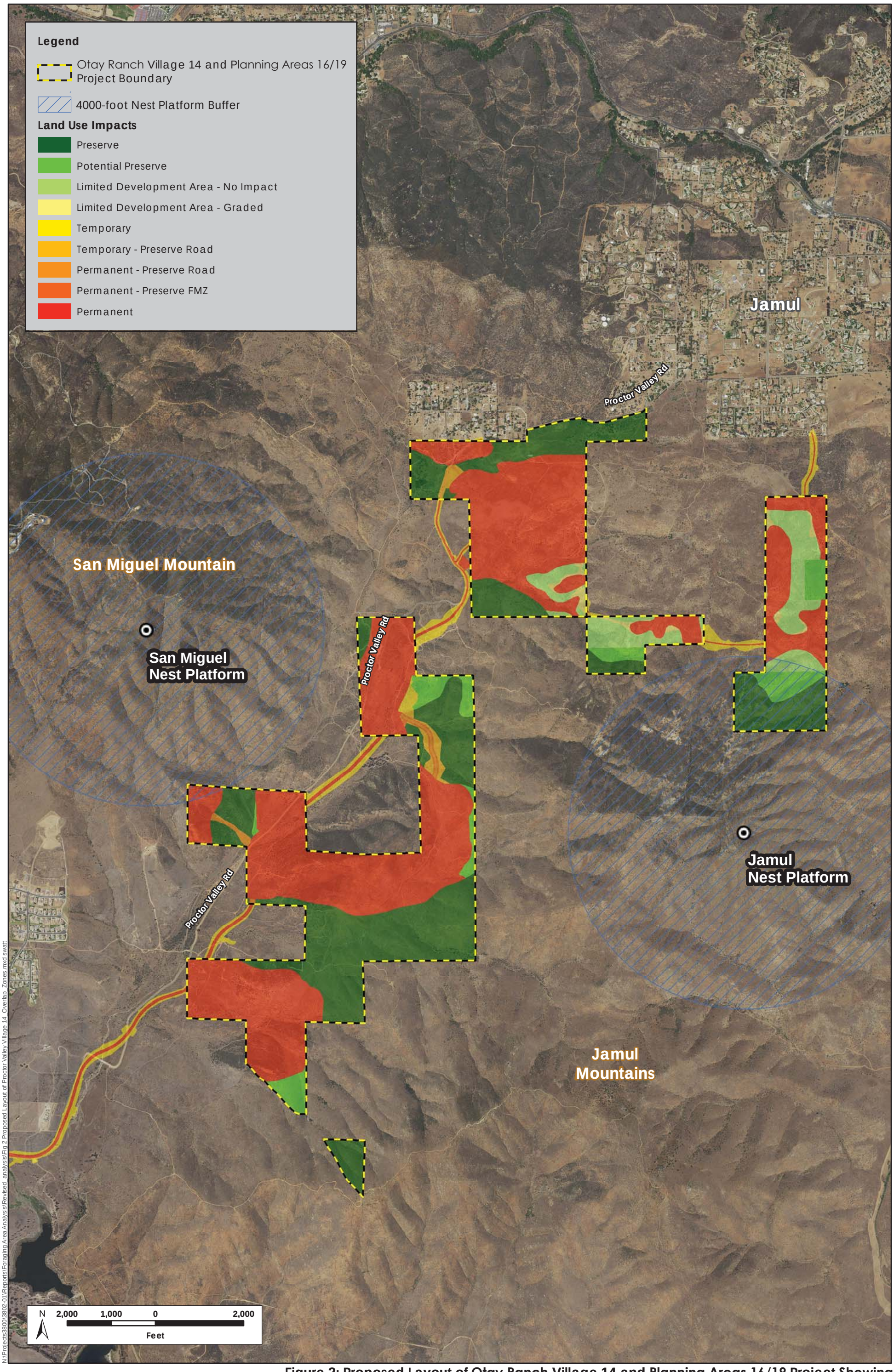
Figure 1. Proposed Layout of Otay Ranch Village 14 and Planning Areas 16/19 Project Showing Development Overlap Zone Within 4,000 Feet of Artificial Nest Platform and Historic Eagle Nests on San Miguel Mountain

Otay Ranch Village 14 Revised Golden Eagle Foraging Area Analysis (3802-01)
March 2017



N:\Projects3800\3802-01\Reports\Foraging Area Analysis\Revised analysis\Fig 2 Proposed Layout of Proctor Valley Village 14 Overlap Zones.mxd swatt

Figure 2: Proposed Layout of Otay Ranch Village 14 and Planning Areas 16/19 Project Showing Development Overlap Zones Within 4,000 Feet of Two Artificial Nesting Platforms Installed in 2013

Otay Ranch Village 14 Revised Golden Eagle Foraging Area Analysis (3802-01)

March 2017

H. T. HARVEY & ASSOCIATES
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7. **Confirm that no golden eagles have established a nest at the USFWS artificial platform on San Miguel Mountain.**

   No golden eagle nest has been constructed on the San Miguel artificial nest platform. This has been confirmed both by H.T. Harvey & Associates visual observations during the 2016 and 2017 breeding seasons, as well as by an absence of eagle activity documented by the USFWS trail camera that is focused on the platform (J. Martin personal communication, March 2017).

8. **Confirm the distance between the USFWS/BLM artificial nesting platform in the Jamul Mountains and the nearest Project Development boundary.**

   ~3,916 feet. Figure 2 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the artificial nest platform in the Jamul Mountains.

9. **Confirm that no golden eagles have established a nest at the USFWS/BLM artificial platform in the Jamul Mountains.**

   No golden eagle nest has been constructed on the Jamul Mountains platform. This has been confirmed both by H.T. Harvey visual observations during the 2016 and 2017 breeding seasons, as well as by an absence of eagle activity documented by the USFWS trail camera that is focused on the platform (J. Martin personal communication, March 2017).

10. **Confirm the distance between the next nearest active nest and the Project development boundary.**

    Based on available data summarized in the USFWS 2012 MSCP Status Report, the nearest known recently active (2011) golden eagle nest is located ~5.4 miles to the south in the Cedar Canyon area near Otay Mountain. We do not currently have access to any more recent data about golden eagle nesting activity in outlying areas, but closer nesting activity has not been publically documented for more than a decade and no other golden eagle breeding territories besides San Miguel Mountain have ever contained known nests located closer than 4–5 miles from the proposed Project.

11. **Confirm that there are no active nests within 4,000 feet of the Project development boundary.**

    Currently, there are no extant golden eagle nests (except perhaps decrepit remnants) within 4,000 feet of the Project development boundary, nor anywhere close to that distance from the Project site.

12. **Confirm that there are no suitable nesting platforms within 4,000 feet of the Project development boundary.**

    No, this is not correct. There are potentially suitable nest substrates in several areas within 4,000 feet of the Project development boundary. Most such substrates are rock outcrops located in the same general area as the San Miguel Mountain artificial nest platform and historic natural nest sites, in the area of the Jamul Mountains artificial nest platform, and along the ridge that runs east to west to the northeast of Jamul. Other possibilities include utility towers along the Jamul Transmission Line that crosses the Project landscape, and a few other marginal possibilities in various areas involving isolated rock outcrops and oak trees. Golden eagles also could conceivably nest in some of the relatively large eucalyptus trees located around upper Otay

Lake and in Proctor Valley; however, these possibilities are unlikely because of the landscape setting and existing proximity of human activity.

13. **Provide an opinion as to whether the golden eagles observed foraging on the Project site are defending a breeding territory or merely foraging within their home range.**

    Based on the periodic 2-day surveys we conducted during the 2016 and 2017 breeding seasons, we have recorded no evidence of definitive territorial activity in the San Miguel Mountain, Jamul Mountains, or Proctor Valley areas. The few eagles that we have observed in the area, as well as the USGS tracking data, confirm that transient subadult and adult eagles occur in the area at least seasonally and periodically. In addition, the initial USGS data suggested that the overall foraging home ranges of eagles nesting in Cedar Canyon at least temporarily encompassed the Jamul Mountains and Proctor Valley areas. Further, our two recent sightings of an adult eagle in the Jamul Mountains, with the March occurrence definitely involving a non-telemetered eagle, suggest the possibility that a floater adult may have taken up residence in the Jamul Mountains in 2017. Again, however, we have witnessed no signs of territorial displays, other overt territorial behavior, or any eagle nesting activity in the area during the past two breeding seasons.

14. **Provide an opinion as to whether the proposed Project would result in lethal take of any golden eagle.**

    The Project would not disturb any eagle breeding activity and the resulting loss of peripheral foraging habitat would be insubstantial for the currently known and established breeders in the MSCP planning area. Therefore, the potential for breeding disturbance and habitat loss to result in lethal take within the area breeding population is essentially nonexistent. Similarly, the potential for the loss of 810 acres of foraging habitat to result in lethal take of any local floater (nonbreeding adults), transient, or seasonally resident eagles that forage in the Project area also is vanishingly small, because such birds would still have broad access to other areas of high quality foraging habitat within the Preserve (i.e., it is highly unlikely that such a bird would starve to death because the Project is developed).

15. **Provide an opinion as to whether the proposed Project would result in human disturbance of any active golden eagle nest.**

    There is currently no potential for such disturbance to occur, because the closest known recently active nest is more than 5 miles away.

16. **Provide an opinion as to whether the proposed Project would place human disturbances within 4,000 feet of any active golden eagle nest.**

    There is currently no potential for such disturbance to occur, because the closest known recently active nest is more than 5 miles away.

17. **Provide an opinion as to whether the MSCP preserve, as augmented by the acreage conveyed by the proposed Project, provides adequate forage to sustain the golden eagles that currently include the Project site within their home range.**

Based on the available and accessible evidence, it is not clear that any individual eagles currently rely on the Project area as foraging habitat consistently or perennially. Although the initial USGS tracking data suggested that the overall home range of the former Cedar Canyon breeding pair included Proctor Valley and the Jamul Mountains, that female died and our recent observations revealed a non-telemetered adult in the area. Access to more recent USGS tracking data may help clarify the current situation; however, those data are not publically available. Regardless, given that Proctor Valley does not currently overlap any pair's core breeding territory and the closest known recently active nests are more than 5 miles away, if a pair nesting in the San Ysidro Mountains routinely forages in Proctor Valley, the loss of even a few thousand acres of foraging habitat (the Project development footprint is approximately 810 acres and, by the MSCP definition, 97% of this area constitutes golden eagle foraging habitat) in a peripheral portion of that pair's overall home range would not exceed the 20% threshold of foraging area loss identified as significant in the MSCP. Moreover, such a pair would continue to have ready access to large acreages of suitable foraging habitat within the MSCP Preserve in the Jamul Mountains, the foothills of Proctor Valley, possibly around San Miguel Mountain, and in the large expanse of Preserve habitat located between the Jamul Mountains and San Ysidro Mountains. Therefore, developing the Project would not significantly compromise the ability of any current breeding pairs to sustain themselves.

18. **Confirm your earlier opinion that the USGS data, while interesting for purposes of studying golden eagle behavior over the long-term, is incomplete and includes no analytical component, making it of marginal use in a project-specific impact assessment.**

    A robust assessment of eagle usage patterns and the importance of the Project site to tagged eagles would require a much more detailed evaluation of the gathered data than is possible based solely on the coarse-scale summary maps—with no interpretation—presented in the initial 2016 USGS report. Most importantly, discerning whether usage of the Project area by tagged adults that appear to be year-round residents is consistent throughout the year or seasonally variable, and using available analytical techniques to effectively portray the relative density of usage in different areas, are critical missing ingredients that would be required to use the data for assessing the relative importance of the Project area to resident breeders.

19. **Confirm your earlier opinion that the project site's golden eagle habitat is sub-optimal due to density of chaparral and loamy/cobbly soils.**

    This statement applies ONLY to the Otay Ranch Village 14 portion of the proposed Project development area in the central portion of Proctor Valley. Planning Areas 16 and 19 contain greater proportions and extents of high-quality coastal sage scrub and annual grassland habitat. There is definitely foraging habitat for golden eagles in the Village 14 area of central Proctor Valley, which in some areas is relatively high quality. However, a substantial portion of the habitat in the vicinity of the Village 14 development area is not golden eagle foraging habitat because the chaparral is too dense. In addition, because of the soil characteristics, most of the bottomland portions of central Proctor Valley where much of the development will occur is not well suited to ground squirrels compared to other neighboring foothill areas (as well as the grazed grassland and coastal scrub habitats located primarily in Planning Area 16). This does not mean that there are no foraging opportunities for eagles in these areas, but it limits the potential diversity of prey compared to other foothill areas that will be preserved.

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Technical Memorandum

May 23, 2017

To: David Hubbard
Dillon, Gatzke & Ballance LLP

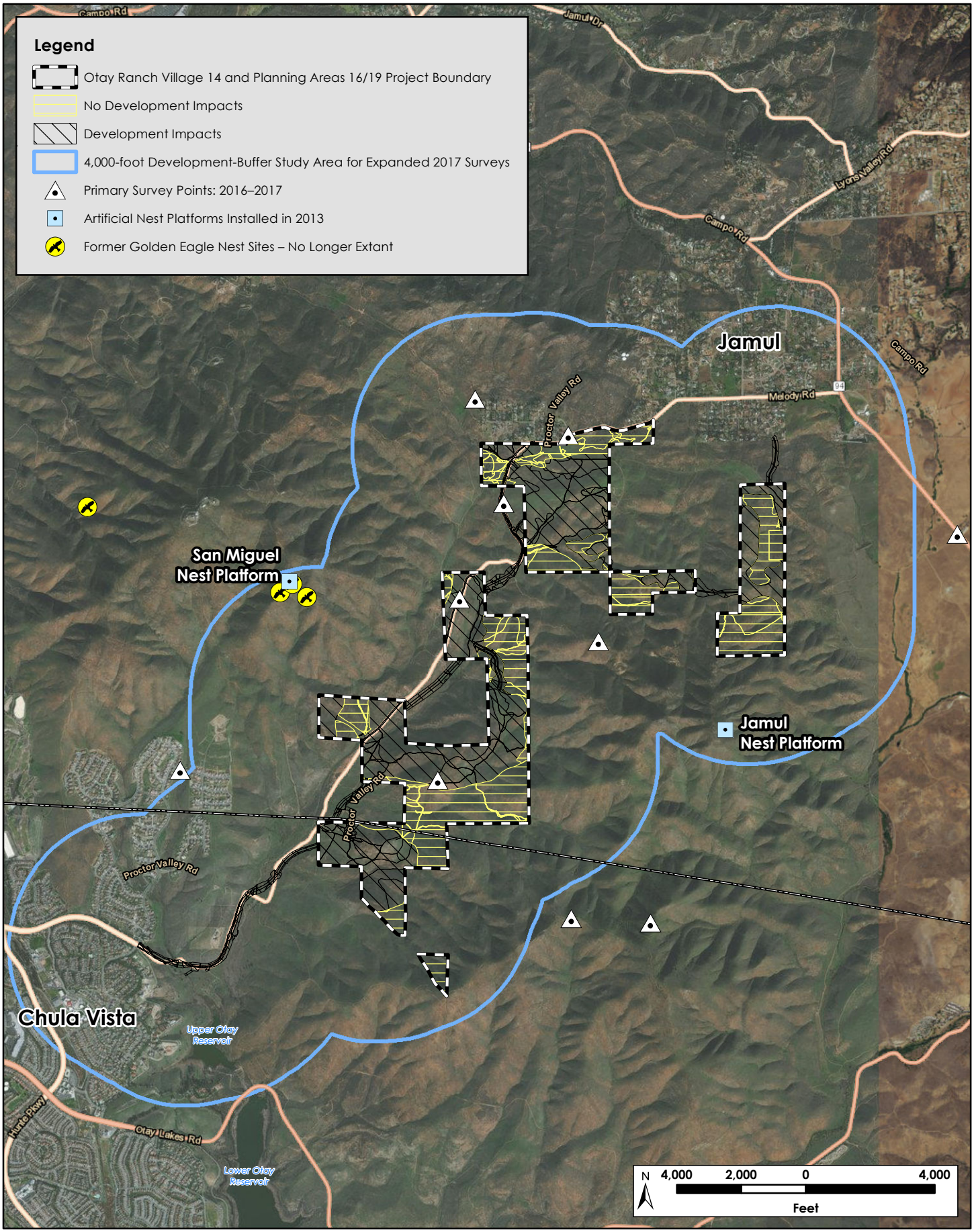
From: Jeff Smith, Jeff Zirpoli, Judd Howell, and Scott Terrill

Subject: Otay Ranch Village 14 Golden Eagle Nest Surveys 2016–2017

This report summarizes the results of surveys for golden eagle (*Aquila chrysaetos*) nests and breeding/territorial activity conducted in the vicinity of the proposed Otay Ranch Village 14 and Planning Areas 16/19 residential development project (Project—including development and preserve areas; Figure 1) in San Diego County during the 2016 and 2017 breeding seasons. The Project encompasses approximately 1,370.7 acres, of which 809.8 acres is proposed for development, including permanent and temporary impacts, offsite improvements, and roadways, utility corridors, and fuel management zones in what will otherwise remain open space. Of the remainder, at least 407.2 acres and potentially as much as 476.5 acres will become part of the Otay Ranch Preserve, which is described in the Multiple Species Conservation Plan (MSCP) adopted to help manage the impacts of large-scale residential development in western San Diego County (County of San Diego 1998). An additional 84.3 acres will be designated as Limited Development Areas that will remain as open space.

The MSCP and standard guidelines for evaluating project impacts promulgated by the County of San Diego stipulate that development be restricted within 4,000 feet of "active" golden eagle nests[1] (County of San Diego

[1] The term "active" is not defined in either referenced document and variable, often conflicting definitions have been applied to this term in describing and managing impacts to raptor nests, depending on the regulatory/management and temporal context (e.g., see Steenhof and Newton 2007; U.S. Fish and Wildlife Service 2009, 2013, 2016). Steenhof and Newton (2007) discourage continued use of the term because of this confusing history. Historically and most commonly, the term "active" has been used to describe nests that contain eggs or young (Postupalsky 1974). However, established golden eagle breeding pairs show high fidelity to their breeding territory, may occupy a territory for 20 years or more, typically maintain and variably use multiple alternative nests (which may be separated by substantial distances, depending on the density of breeding pairs, availability of nest substrates, and overall home range size), and often do not lay eggs every year (Kochert et al. 2002, Watson 2010). Therefore, where previously used nests are known to exist, the absence of eggs or young during a given breeding season does not confirm an unoccupied breeding territory nor the absence of an "active" breeding pair, only that no breeding attempt occurred that year (U.S. Fish and Wildlife Service 2009, 2013). For these reasons and for the purpose of maintaining no-development buffers to protect nesting eagles, the classification of golden eagle nests as "active" or "inactive" should reflect a multi-year assessment that accounts for the possibility of intermittent nesting, use of multiple alternative nests across years, and potential reuse intervals of 10 years or more for individual nests that persevere within occupied territories (Kochert and Steenhof 2012). In addition, breeding territories typically should not be considered abandoned unless rigorous annual monitoring confirms the absence of a breeding pair for at least several years (U.S. Fish and Wildlife Service et al. 2012).



N:\Projects3800\3802-01\Reports\Village 14\Figure 1 Study Area for GE Nest Survey - May 2017.mxd

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Figure 1: Study Area for Golden Eagle Breeding Surveys Around the Proposed Otay Ranch Village 14 and Planning Areas 16/19 Residential Development Project

Otay Ranch Village 14 Golden Eagle Assessment (3802-01)
May 2017

1998: Table 3-5; County of San Diego 2010). Accordingly, our surveys focused on determining whether any golden eagle nests existed within 4,000 feet of the proposed development boundaries, and whether any potential golden eagle breeding pairs currently occupy the Project area. As defined in the MSCP, 97% of the Project landscape constitutes potential golden eagle foraging habitat, comprising Diegan coastal sage scrub, chaparral, and annual grassland (Dudek 2015); however, approximately 11% of the proposed development area is not suited to eagle foraging because the chaparral is too dense (H. T. Harvey & Associates 2017) and, with the exception of some scattered eucalyptus trees (*Eucalyptus* spp.), the Project site is devoid of potential eagle nest substrates.

Golden eagles were documented as breeders in the San Miguel Mountain/Mother Miguel Mountain area from the early 1900s through the early 1980s (Scott 1985). More recent monitoring confirmed that the territory was occupied and productive from 1990–2004, occupied but not productive from 2005–2007, and apparently abandoned after fall 2007 when the Harris' fire destroyed the primary nest on San Miguel Mountain (U.S. Fish and Wildlife Service et al. 2012, Martin and Terp 2014). Since then, in August 2013 the U.S. Fish and Wildlife Service (USFWS) installed an artificial nest platform on an outcrop located on the eastern flank of San Miguel Mountain near where the most recent historic nest was located, and in April 2013 the Bureau of Land Management (BLM) installed a second nest platform on an outcrop located on the east flank of the Jamul Mountains in an area where no previous nesting had been documented (Martin and Terp 2014). However, no nest building or breeding attempts (meaning eggs were laid) were confirmed on either San Miguel Mountain or in the Jamul Mountains in 2014 or 2015 (Martin and Terp 2014, Fisher and Tracey 2015)

Observers noted activity involving an adult eagle and a subadult in the area during spring 2014, including repeated activity in the general vicinity of the San Miguel nest platform and occasional movements between the areas with the two nest platforms (Martin and Terp 2014). U.S. Geological Survey (USGS) tracking data also demonstrated that the home ranges of a presumed pair of adult eagles overlapped the Project area between December 2014 and February 2016 (Tracey et al. 2016), but this pair's 2015 nesting area was believed to be on Otay Mountain (Fisher and Tracey 2015). The female died later in 2015 after traveling south into Baja California, whereas further tracking confirmed that the male held a territory in the Cedar Canyon area on Otay Mountain in 2016, but also wandered extensively in northwestern Baja California (Tracey et al. 2017). The new USGS data also indicated that this male eagle continued to exploit a large foraging home range that included the Jamul Mountains and Proctor Valley along its northern periphery. As currently presented, however, the USGS data do not allow for a more refined assessment of this eagle's activities in the Project area; e.g., to discern temporal patterns and proportional usage.

Other eagles tracked by the USGS also have resided in and passed through the Otay Lakes/Jamul Mountains area for variable periods (Tracey et al. 2016, 2017). A subadult male outfitted with a transmitter in Proctor Valley in December 2015 stayed in the valley for a short period, but then migrated south into Baja California and was not heard from again after February 2016. A subadult female outfitted in Proctor Valley in December 2015 initially resided primarily in the Jamul Mountains and farther south (to Otay Mountain), but also occasionally visited San Miguel Mountain (Tracey et al. 2016). Then she wandered extensively to the north, spent time in many different areas as far north as San Bernardino County, and apparently returned several times to the Jamul/Otay Mountains area (Tracey et al. 2017). Again, however, the overall temporal details of this eagle's activity and the relative importance of the Project area and Jamul Mountains are not readily discernable from the current USGS reports.

Survey Methods

In 2016, we conducted ground-based surveys on 30–31 March and 18 May 2016, covering an area that extended out 4,000 feet in all directions from a previously proposed project layout that consolidated the development footprint in central Proctor Valley. The March surveys were conducted by two persons and involved exploratory nest searches, focused 1–4-hour observations from strategic points, and habitat assessments traversing the study area while constantly keeping an eye out for eagle activity. Similarly, the May survey included ~6 hours of focused surveys by one person, but 9+ total hours of observation while in the study area. Given that the survey area contained no previously confirmed, extant golden eagle nests, conducting the two surveys in March and May provided sufficient coverage to confirm any newly constructed nests, verify whether any breeding pairs were still incubating in late March or raising young, and determine whether any eagles were strongly dedicated to maintaining a territory in the area (Pagel et al. 2010).

In 2017, we conducted additional ground based surveys on 5–7 January (~24 hours by two persons), 3–4 March (~16 hours by one person), and 26–27 April (~23 hours by two persons), to constitute a complete protocol-level survey of the Project area for evidence of territorial eagles and potential breeding activity (Pagel et al. 2010). These surveys encompassed a larger area extending out 4,000 feet from the boundaries of the current proposed Project development footprint (Figure 1), which fully encompassed the survey area covered in 2016. The surveys again involved a combination of focused 2–4 hour observations at specific locations, plus other general observation time while driving and hiking through the area.

The objective of these surveys was to use high-quality binoculars and spotting scopes to scour the relevant landscape from roadways and while hiking in relevant areas, and investigate all potential nesting areas in the study area for possible nests and evidence of territorial eagles and breeding activity. Our efforts focused on the 4,000-foot buffer area around the proposed development footprint, but also encompassed expanded areas in the Jamul Mountains to cover the nest platform area and other potential nesting habitat along the crest of those mountains, and a broader area along the eastern flank of San Miguel Mountain where suitable rock substrates exist and historical eagle nests were located (Figure 1).

In preparation for the initial 2016 surveys, we conducted a thorough virtual search of the relevant landscape using Google Earth® to identify areas with potentially suitable nest substrates (natural as well as towers associated with the Jamul Mountains transmission line), augmented by prior first-hand observations of the relevant landscape. During the initial March 2016 survey, our effort included: (1) focused, 1–4 hour observations for potential activity and nest sites in the vicinity of the two nest platforms and historical San Miguel Mountain nesting areas; (2) extended observations from several other strategic vantage points focused on other areas with potentially suitable nest substrates; and (3), where practical, hikes to more closely inspect certain areas for potential nests. The latter included hiking up onto the crest of the Jamul Mountains to inspect scattered potential nest trees and rock outcrops, and other wooded areas with potentially suitable nest substrates. During the May 2016 survey, our effort was limited to revisiting all areas of potential nesting habitat via remote observations using high-powered optics, again including extended observations for activity near the Jamul Mountains and San Miguel Mountain nest platform/historic nesting areas.

During the 2017 surveys, we repeated a similar approach that included extended 2–4 hour observations from strategic locations that provided broad overviews of the study landscape and all potential nesting areas (Figure 1). In both years, our survey efforts provided broad spatial and representative seasonal and diel coverage of the study area sufficient to ensure detection of territorial eagles and breeding activity (see Appendix A for a record of the survey effort).

Dr. Jeff Smith (JS), with 20 years of experience monitoring and studying the ecology of breeding golden eagles in the western United States, acted as lead surveyor during all surveys. Jeff Zirpoli (JZ) (M.Sc.), with 5 years of experience monitoring and studying the ecology of breeding golden eagles in California and Montana, assisted with most of the surveys.

Survey Results

Breeding Season 2016

During both the March and May 2016 surveys, the weather conditions were favorable for eagle activity. The March surveys commenced with the remnants of a modest rain event lingering in the survey area; however, the weather quickly cleared to fair skies the first morning and was sunny and warm for the rest of the survey. The weather was also warm and sunny during the May survey, with light to moderate westerly winds prevailing during both survey periods.

During the 3 days of surveys, the only golden eagle we observed was a single subadult (Basic III plumage; Bloom and Clark 2001, Liguori 2004), which JS observed briefly flying around and then perched in the Jamul Mountains near, but on the other side of the crest from, the Jamul platform. In contrast, we often observed red-tailed hawks (*Buteo jamaicensis*) and turkey vultures (*Cathartes aura*) in the area, as well as occasional Cooper's hawks (*Accipiter cooperii*), northern harriers (*Circus cyaneus*), and American kestrels (*Falco sparverius*).

During the March survey, we discerned no evidence of augmented nest material on either of the artificial nest platforms. When the USFWS and BLM installed the platforms, they added sparse stick wreaths to them and splashed white paint on the rocks behind and near them to simulate eagle nests and mute in an effort to attract potential breeders (Martin and Terp 2014). Our March observations suggested that some of these sticks may have been barely visible from below, but no substantial structure was visible on either platform. During the May survey, JS discerned no change in the appearance of the San Miguel platform. Conversely, although he discerned no further evidence of a built-up nest structure on the Jamul platform, JS clearly observed several sticks hanging over the edge of that platform in May, suggesting that the original wreath had been displaced. In both March and May, JS also observed a pair of common ravens (*Corvus corax*) in the immediate vicinity of the Jamul platform and, in May, one of those ravens was jumping around on the platform, suggesting that those birds may have contributed to the disarray. We also examined both areas carefully for evidence of fresh mute accumulations indicative of extended eagle presence, and found none. Therefore, we can be confident that no eagles nested successfully on either platform in 2016, and no eagles attempted to breed in either location.

We documented no other used or potential eagle nests anywhere in the surveyed area. This includes having carefully scanned, several times and from various vantage points, a broad area of potentially suitable outcrops and scattered trees along the eastern flank of San Miguel Mountain for evidence of nest structures and eagle presence. Although we were unable to hike through this area of San Diego National Wildlife Refuge to accomplish an intensive search for potential remnant nest structures, our effort was sufficient to confirm that no eagles were actively nesting on the east flank of San Miguel Mountain. Similarly, our efforts were sufficient to confirm that no eagles were actively nesting anywhere in the Jamul Mountains.

Breeding Season 2017

After an hour in the morning on 5 January 2017, rain and low clouds settled in and obscured the mountains and most of Proctor Valley, forcing us to abort our initial survey effort. The weather cleared the next day, however, and we were able to complete 2 days of surveys under favorable conditions. The survey conditions during March and April were entirely favorable, featuring cool to warm, breezy weather with no threat of precipitation.

On the first full day of surveys in January, JZ observed an adult golden eagle twice in the Jamul Mountains. Initially, he observed the eagle perched early in the morning on a low hilltop in the eastern foothills of the Jamul Mountains, approximately 0.6 miles southeast of the Jamul platform. An hour later, the eagle flew up and out of view along the upper western flank of the Jamul Mountains. A half hour later, most likely the same eagle soared back over the ridgetop from the north and landed again on a different rock about 600 feet from the Jamul platform, where it remained for the next 5 hours. We saw no other eagles during this 2+-day survey, and the single adult we did observe exhibited no signs of territorial behavior or nest-tending activity.

On the first afternoon of the March surveys, JS observed a single, young subadult (Basic I plumage) golden eagle atop the western flank of the Jamul Mountains, soaring around as it was being harassed by a juvenile red-tailed hawk. He did not observe this young eagle again the next day. Surveys the second day focused on both the northeastern Jamul Mountains and northern Proctor Valley. On that day, JS observed a single adult golden eagle again in the Jamul Mountains. He first detected this eagle while observing in Proctor Valley, when it appeared on the horizon above the main Jamul Mountains peak (the nest platform is located on the east side near this peak). The eagle spent 10–15 minutes moving back and forth along the upper west flank of the peak, being harassed by ravens and a red-tailed hawk, then rose up and rapidly moved south along the ridge and then out of view down toward Lower Otay Lake. This eagle was not carrying a telemetry backpack. Approximately 25 minutes later, JS briefly observed an eagle again moving at a low altitude up Proctor Valley, presuming that the same eagle circumnavigated the southwestern Jamul Mountains and then proceeded "stealthily" up Proctor Valley, nearly evading detection. At no time did this eagle exhibit any signs of territorial behavior, aggression towards other raptors, or nest building/tending activity. JS also observed a subadult bald eagle (*Haliaeetus leucocephalus*) pass through the San Miguel Mountain area during the second morning.

During the first morning of the April surveys, JZ spotted what may have been a distant golden eagle perched on a rock in the foothills of the northeastern Jamul Mountains, but which promptly took off and flew out of view

to the south without providing enough for a positive identification. The only other eagle we observed during this 2-day survey was another young subadult bald eagle that passed over northern Proctor Valley.

As part of our 2017 surveys, as in 2016, we also again repeatedly scoured, with binoculars and spotting scopes from strategic locations, all areas of potential nesting habitat within and near the 4,000-foot buffer area for any signs eagle nests or evidence of well-used perch sites with whitewash suggestive of regular occupancy. We detected no such evidence. In addition, we discerned no evidence of any nest building activity at either of the artificial platforms, and confirmed with John Martin of the USFWS (Martin 2017) that the trail cameras installed to monitor activity at the platforms have yet to reveal any eagle activity.

Conclusion

Our observations confirmed that a few subadult golden eagles occasionally occur in the Jamul Mountains, and suggested that a single non-telemetered adult may have taken up residence in the Jamul Mountains in 2017. However, following a collective total of 9 days of intensive surveys over two breeding seasons, generally involving two observers and covering a broad landscape area around the Jamul Mountains, the eastern flank of San Miguel Mountain, and the ridgeline north and west of Jamul, the dearth of observations in 2016 and only a few brief sightings in 2017 confirmed that no breeding or overtly territorial eagles occupied the area during either breeding season. The USGS tracking reports (Tracey et al. 2016, 2017) suggest that the overall foraging home range of the adult male that holds a breeding territory in Cedar Canyon often extends north to Proctor Valley; however, the currently available USGS reports do not allow for a refined evaluation of the relative importance of the Project area to this eagle. We do know that USGS staff observed some territorial displays in the area in late 2015/early 2016 (Kolar 2016). Regardless, clear indicators that (a) no golden eagles nested in the surveyed area in 2016 and 2017, and (b) no eagles were dedicated to establishing and maintaining a hold on a potential breeding territory during this period, include the following:

- A general scarcity of observations over two breeding seasons despite 9 days of intensive observations spread out across both breeding seasons during favorable weather
- An absence of territorial (i.e., displays and regular patrolling) and breeding behavior
- An absence of discernable nests and evidence (i.e., defecation whitewash or mute) indicating routine roosting on outcrops in potential nesting areas
- No observations of a potential breeding pair

In summary, although the overall monitoring record is incomplete, the available evidence suggests that no golden eagles have nested in the Project vicinity for more than 10 years and that no potential new breeding pairs have established a territory in the area since the San Miguel breeding territory was abandoned after 2007.

References

Bloom, P. H., and W. S. Clark. 2001. Molt and sequence of plumages of golden eagles and a technique for in-hand ageing. North American Bird Bander 26:97–116.

County of San Diego. 1998. Final Multiple Species Conservation Program MSCP Plan. San Diego, California.

County of San Diego. 2010. Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources. Fourth Revision, September 15, 2010. Land Use and Environment Group, Department of Planning and Land Use, and Department of Public Works, San Diego, California.

Dudek. 2015. Draft Biological Technical Report for the Proctor Valley Village 14 and Preserve, San Diego County, California. September 2015. Encinitas, California. Prepared for the County of San Diego, Planning and Development Services, San Diego, California, and Jackson Pendo Development, San Diego, California.

Fisher, R., and J. Tracey. 2015. Personal communication. Research Biologist/Ecologist, U.S. Geological Survey, Western Ecological Research Center, San Diego, California. 1 September 2015—conversation with J. P. Smith and J. A. Howell of H. T. Harvey & Associates regarding golden eagle tracking study and current knowledge of nesting activities in the Otay Lakes area of San Diego County.

Hunt, W. G., and T. Hunt. 2006. The Trend of Golden Eagle Territory Occupancy in the Vicinity of the Altamont Pass Wind Resource Area: 2005 Survey. Final Project Report CEC-500-2006-056. Public Interest Energy Research (PIER) Program, California Energy Commission, Sacramento, California.

Hunt, W. G., R. E. Jackman, T. L. Brown, J. G. Gilardi, D. E. Driscoll, and L. Culp. 1995. A Pilot Golden Eagle Population Study in the Altamont Pass Wind Resource Area, California. Predatory Bird Research Group, University of California, Santa Cruz, California.

H. T. Harvey & Associates. 2017. Otay Ranch Village 14 and Planning Areas 16/19 Project EIR Golden Eagle Four Question Report – Revised 2017. Memorandum prepared on March 13, 2017 for Gatzke, Dillon & Ballance LLP, Carlsbad, California.

Kochert, M. N., and K. Steenhof. 2012. Frequency of nest use by golden eagles in southwestern Idaho. Journal of Raptor Research 46:239–247.

Kochert, M. N., C. L. Steenhof, and E. H. Craig. 2002. Golden eagle *Aquila chrysaetos*. No 684 *in* A. Poole and F. Gill (Editors), The Birds of North America. The Birds of North America, Inc., Philadelphia, Pennsylvania.

Kolar, P. S. 2016. Personal communication. Research Biologist, U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center, Tracey, California. 28 May 2016—conversation with J. P. Smith of H. T. Harvey & Associates regarding field observations of golden eagles in the vicinity of Proctor Valley, San Diego County, California during early 2016.

Liguori, J. 2004. How to age golden eagles: techniques for birds observed in flight. Birding June 2004: 278–283.

Martin, J. 2017. Personal communication. Wildlife Biologist, U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge, Jamul, California. 3 March 2017—conversation with J. P. Smith of H. T. Harvey &

Associates regarding trail camera monitoring at artificial nest platforms in the Jamul and San Miguel Mountains, San Diego County, California.

Martin, J., and J. Terp. 2014. Artificial nest platforms for golden eagles. Final Report for Grant Agreement No. 5001977. U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge, Jamul, California. Prepared for the San Diego Association of Governments, San Diego, California.

Pagel, J. E., D. M. Whittington, and G. T. Allen. 2010. Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia.

Postupalsky, S. 1974. Raptor reproductive success: some problems with methods, criteria, and terminology. Pages 21–31 *in* F. N. Hamerstrom Jr., B. E. Harrell, and R. R. Olendorff (Editors), Management of Raptors. Raptor Research Report No. 2. Raptor Research Foundation, Inc., Vermillion, South Dakota.

Scott, T. A. 1985. Human Impacts on the Golden Eagle Population of San Diego County. M.S. Thesis. San Diego State University, San Diego, California.

Steenhof, K., and I. Newton. 2007. Assessing nesting success and productivity. Pages 181–192 *in* D. M. Bird and K. L. Bildstein (Editors), Raptor Research and Management Techniques. Hancock House Publishers, Surrey, British Columbia, Canada, and Blaine, Washington.

Tracey, J. A., M. C. Madden, J. B. Sebes, P. H. Bloom, T. E. Katzner, and R. N. Fisher. 2016. Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, November 2014–February 2016. U.S. Geological Survey Data Series 994. <http://dx.doi.org/10.3133/ds994>.

Tracey, J. A., M. C. Madden, J. B. Sebes, P. H. Bloom, T. E. Katzner, and R. N. Fisher. 2017. Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, February 2016–February 2017. U.S. Geological Survey Data Series 1051. <https://doi.org/10.3133/ds1051>.

[USFWS] U.S. Fish and Wildlife Service. 2009. Eagle permits; take necessary to protect interests in particular localities, final rules. Federal Register 74(175):46836–46879.

[USFWS] U.S. Fish and Wildlife Service. 2013. Eagle Conservation Plan Guidance—Module 1—Land-based Wind Energy. Version 2. Division of Migratory Bird Management, Washington, D.C.

[USFWS] U.S. Fish and Wildlife Service. 2016. Eagle permits; revisions to regulations for eagle incidental take and take of eagle nests, proposed rule. Docket No. FWS–R9–MB–2011–0094. <http://www.fws.gov/migratorybirds/pdf/management/EagleRuleRevisions-ProposedRule.pdf> Accessed June 2016.

[USFWS] U.S. Fish and Wildlife Service, California Department of Fish and Game, and San Diego Management and Monitoring Program. 2012. San Diego Multiple Species Conservation Program Status Report: 1997–2011. Appendix 2: MSCP Covered Animal Species Summary as of 12/31/2011. Carlsbad and San Diego, California. <http://sdmmp.com/Libraries/San_Diego_MSCP_Status_Report/Appendix2_MSCP_Status Report_Dec2012.sflb.ashx> Accessed August 2015.

Watson, J. 2010. The Golden Eagle. Second edition. T & AD Poyser, London, United Kingdom.

Wiens, J. D., P. S. Kolar, M. R. Fuller, W. G. Hunt, and T. Hunt. 2015. Estimation of Occupancy, Breeding Success, and Abundance of Golden Eagles (*Aquila chrysaetos*) in the Diablo Range, California, 2014. U.S. Geological Survey Open-File Report 2015-1039.

Appendix A. Surveys Conducted in 2016 and 2017 to Monitor for Golden Eagle Territorial and Breeding Activity

Date	Location[1] and Focus	Period	Observer
30 March 2016	Proctor Valley, Jamul area, and Hwy 94 – several exploratory observation points focused on nest finding	08:30–17:00	Jeff Smith
30 March 2016	N Proctor Valley – eagle habitat assessment with attention to eagle sightings	08:30–17:00	Jeff Zirpoli
31 March 2016	Central and W Jamul Mountains – hiking and ridgetop monitoring	08:30–13:30	Jeff Smith
31 March 2016	NW Jamul Mountains – hiking and ridgetop monitoring	08:45–12:45	Jeff Zirpoli
31 March 2016	S Proctor Valley – eagle habitat assessment with attention to eagle sightings, and additional focused surveys for potential nests in selected areas	13:45–17:00	Jeff Smith
31 March 2016	Central and S Proctor Valley – eagle habitat assessment with attention to eagle sightings	13:00–17:00	Jeff Zirpoli
18 May 2016	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	09:00–11:00	Jeff Smith
18 May 2016	Observation points near Jamul – focus on NW Jamul Mountains, NE San Miguel Mountain, and ridges N and NW of Jamul	11:30–13:30	Jeff Smith
18 May 2016	Bella Lago residential area and S Proctor Valley – focus on E/SE flank of San Miguel Mountain, San Miguel nest platform and historic nest areas, and S Proctor Valley/SW Jamul Mountains	14:00–16:30	Jeff Smith
6 January 2017	Bella Lago residential area – focus on E/SE flank of San Miguel Mountain, San Miguel nest platform and historic nest areas, and S Proctor Valley/SW Jamul Mountains	07:30–10:30	Jeff Smith
6 January 2017	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	07:40–13:30	Jeff Zirpoli
6 January 2017	Central and W Jamul Mountains – hiking and ridgetop monitoring	11:30–16:00	Jeff Smith
6 January 2017	W of Jamul – focus on ridges N and NW of Jamul and NE San Miguel Mountain	14:00–16:40	Jeff Zirpoli
7 January 2017	N Proctor Valley hilltop – focus on N Proctor Valley, NW Jamul Mountains, NE San Miguel Mountain, and ridges N and NW of Jamul	07:35–09:35	Jeff Zirpoli
7 January 2017	W of Jamul – focus on ridges N and NW of Jamul and NE San Miguel Mountain	09:45–11:45	Jeff Zirpoli
7 January 2017	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	12:00–14:00	Jeff Zirpoli

2 March 2017	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	08:00–11:00	Jeff Smith
2 March 2017	N Proctor Valley hilltop – focus on N Proctor Valley, NW Jamul Mountains, NE San Miguel Mountain, and ridges N and NW of Jamul	11:40–14:40	Jeff Smith
2 March 2017	Central Proctor Valley – focus on E San Miguel Mountain nest platform and historic nesting areas, west-central Jamul Mountains, and central Proctor Valley	15:00–16:30	Jeff Smith
3 March 2017	Bella Lago residential area – focus on E/SE flank of San Miguel Mountain, San Miguel nest platform and historic nest areas, and S Proctor Valley/SW Jamul Mountains	08:00-11:00	Jeff Smith
3 March 2017	Upper Otay Lake – brief hike to look for possible nest sites in surrounding eucalyptus groves	11:15–12:15	Jeff Smith
3 March 2017	Central Proctor Valley hilltop – focus on central and S Proctor Valley, SW Jamul Mountains, and SE flank of San Miguel Mountain	12:30–15:30	Jeff Smith
3 March 2017	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	16:15–17:15	Jeff Smith
26 April 2017	Central and W Jamul Mountains – hiking and ridgetop monitoring	08:30–14:30	Jeff Smith
26 April 2017	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	08:35–12:05	Jeff Zirpoli
26 April 2017	N Proctor Valley hilltop – focus on N Proctor Valley, NW Jamul Mountains, NE San Miguel Mountain, and ridges N and NW of Jamul	12:30–16:30	Jeff Zirpoli
26 April 2017	Central Proctor Valley hilltop – focus on central and S Proctor Valley, SW Jamul Mountains, and SE flank of San Miguel Mountain	15:00–17:00	Jeff Smith
27 April 2017	N Proctor Valley hilltop – focus on N Proctor Valley, NW Jamul Mountains, NE San Miguel Mountain, and ridges N and NW of Jamul	08:15–11:15	Jeff Smith
27 April 2017	Bella Lago residential area – focus on E/SE flank of San Miguel Mountain, San Miguel nest platform and historic nest areas, and S Proctor Valley/SW Jamul Mountains	08:00–11:30	Jeff Zirpoli
27 April 2017	Hwy 94 observation point – focus on NE Jamul Mountains and Jamul nest platform	14:50–17:00	Jeff Smith

[1] See Figure 1 for locations of primary observation points.

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Memorandum

May 22, 2017

To: David Hubbard, Rob Cameron, and Liz and Jim Jackson

From: Jeff Smith

Subject: Reports prepared to date by H.T. Harvey & Associate for Village 14 Project

Otay Ranch Village 14 GOEA Nest Survey Rpt 2016-2017_19May2017.pdf

- Two-year synopsis of nest survey efforts, with 2017 survey area expanded to correspond to Village 14 and Planning Areas 16/19 layout

Village 14 Response to County GOEA Issues_28Mar2017.pdf

- Responses to 18 questions derived from County consultations, based on Village 14 and Planning Areas 16/19 layout

Otay Ranch Village 14 GOEA Assmt EIR Memo Rpt v4_13Mar2017.pdf

- MSCP four-question memo based on current Village 14 and Planning Areas 16/19 layout

Otay Ranch Village 14 GOEA Foraging Habitat Analysis_31Dec2016.docx

- Modified draft begun to correspond to current Village 14 and Planning Areas 16/19 layout, but effort suspended due to uncertain need

Otay Ranch Village 14 GOEA Assmt EIR Memo Rpt_revised_23Jun2016.pdf

- MSCP four-question memo based on Village 14 only / land-exchange layout

Otay Ranch Village 14 GOEA Nest Survey Rpt 2016_03Jun2016.pdf

- Breeding surveys based on Village 14 only / land-exchange layout

Otay Ranch Village 14 GOEA Foraging Habitat Comparison_27Apr2016.pdf

- Report focused on assessing value to eagles of Village 14 only / land-exchange layout

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H. T. HARVEY & ASSOCIATES
Ecological Consultants

Memorandum

March 28, 2017

To: **David Hubbard**
Gatzke, Dillon & Ballance LLP

From: **Jeff Smith, Judd Howell, and Scott Terrill**

Subject: **Responses to Questions Posed by the County of San Diego Regarding the Otay Ranch Village 14 and Planning Areas 16/19 Project Golden Eagle Assessment**

The proposed Otay Ranch Village 14 and Planning Areas 16/19 Project (Project) encompasses 1,370.7 acres, including 86.9 acres of offsite improvement areas where Project-related development disturbance will occur. Of this total, 809.8 acres is proposed for development, including permanent and temporary impacts, offsite improvements, and roadways, utility corridors, and fuel management zones in what will otherwise remain open space. Conversely, at least 407.2 acres and potentially as much as 476.5 acres will be conserved as part of the overall MSCP/Otay Ranch Preserve, and an additional 84.3 acres will be designated as Limited Development Areas that will remain as open space. As defined in the MSCP, 97% of the Project landscape constitutes potential golden eagle foraging habitat, comprising Diegan coastal sage scrub, chaparral, and annual grassland habitats; however, approximately 11% of the proposed development area is not suited to eagle foraging because the chaparral is too dense.

Following are responses to questions posed by the County of San Diego about the Project and its potential to affect golden eagles.

1. **Confirm that there are no active nests within 4,000 feet of the Project development boundary.**

   Currently, no golden eagle nests exist within 4,000 feet of the Project development boundary, nor anywhere close to that distance from the Project site.

2. **Confirm the distance between the next nearest active nest and the Project development boundary.**

   Based on available data summarized in the USFWS 2012 MSCP Status Report, the nearest known recently active (2011) golden eagle nest is located ~5.4 miles to the south in the Cedar Canyon area near Otay Mountain. We do not currently have access to any more recent data about golden eagle nesting activity in outlying areas, but closer nesting activity has not been publically documented for more than a decade and no other golden eagle breeding territories besides San Miguel Mountain have ever contained known nests located closer than 4–5 miles from the proposed Project.

3. **Provide an opinion as to whether the proposed Project would result in human disturbance of any active golden eagle nest.**

   There is currently no potential for such disturbance to occur, because the closest known recently active nest is more than 5 miles away.

4. **Provide an opinion as to whether the proposed Project would place human disturbances within 4,000 feet of any active golden eagle nest.**

   There is currently no potential for such disturbance to occur, because the closest known recently active nest is more than 5 miles away.

5. **Confirm the distance between the former San Miguel Mountain nest site and the Project development boundary.**

   We do not have precise information concerning the locations of the historic nest sites used by golden eagles on San Miguel Mountain, none of which still exist. We do know, however, that there were three nests located in the same general vicinity as the artificial nest platform that the USFWS installed on the southeast flank of San Miguel Mountain in 2013 (D. Bittner personal communication, March 2017). The most recently used (2004) nest was located on another outcrop just below the artificial platform. This nest burned and the rock ledge it was on collapsed in the 2007 Harris fire. A second nest was located within 100 meters or less of the primary nest in the same general expanse of jumbled rocky outcrops. A third nest was located across the canyon to the southeast in another rocky outcrop area. These nests either disappeared previously or were also burned in the Harris fire. Given that none of these nests still exist and no new eagle nests have been built in the area since the 1990s, concern over the proximity of proposed development is largely irrelevant in the context of a CEQA evaluation. Nevertheless, for perspective, coarse measurements based on best-guess approximations of these historic nest locations places them within 3,065–3,541 feet from the nearest Project impact boundary (i.e., the nearest point where Project development will result in at least temporary development disturbance). Figure 1 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the estimated locations of these three historic San Miguel Mountain eagle nests. The area of overlap encompasses 16.4 acres constituting two 4–5 acre residential lots, portions of two other adjacent large lots, a small segment of a roadway that will serve as the access route for these four lots across an intervening section of Preserve, and the back corner of what will become a public park.

6. **Confirm the distance between the former San Miguel Mountain nest site and the nearest proposed "human disturbance" as shown in the Project site plan.**

   As framed, the answer to this question is the same as for Question 5, in that we equate "project development boundary" with "nearest proposed human disturbance."

7. **Confirm that the San Miguel Mountain nest site platform was destroyed and has not been rebuilt or reestablished.**

   The natural nest that was last used (in 2004) by golden eagles in the San Miguel Mountain breeding territory was burned in the 2007 Harris fire, and at that time the rock ledge the nest was on also fractured and collapsed. The former eagle pair remained on territory but initiated no breeding attempts from 2005–2007, and then