BIOLOGICAL RESOURCES ASSESSMENT

THE PRESERVE

ORANGE AND RIVERSIDE COUNTIES, CALIFORNIA

AUGUST 25, 2008
(UPDATED DECEMBER 31, 2013)

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ORANGE AND RIVERSIDE COUNTIES, CALIFORNIA

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AUGUST 25, 2008
(UPDATED DECEMBER 31, 2013)

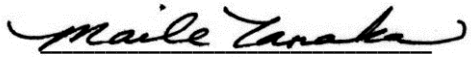
Biological Resources Assessment

The Preserve
Orange and Riverside Counties, California

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a general biological assessment for the above-referenced project.

PCR Services Corporation

Steve Nelson, Director of Biological Services



Maile Tanaka, Senior Biologist

August 25, 2008 (Updated December 31, 2013)

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1.0 INTRODUCTION

1.1 BACKGROUND AND PURPOSE

This report presents the findings of an in-depth biological resources assessment, conducted by **PCR Services Corporation (PCR)**, for The Preserve within the approximately 745.0-acre study area (study area) located in Orange and Riverside Counties, California. The on-site portion of the study area considered in this biological resources assessment consists of three parcels totaling 737.4 acres, the Nilson parcel (203.8 acres), the Sanchez parcel (438.9 acres), and the U.S. Forest Service (USFS) parcel (94.7 acres). The off-site portion of the study area consists of 7.6 acres associated with Long Canyon Road improvements. The submittal of this report is intended to satisfy the biological resource needs of the California Environmental Quality Act (CEQA) process.

The Preserve at San Juan, LLC (Applicant) is requesting administrative and discretionary approval for the implementation of a residential housing development project. The proposed project would include the development of 52 single-family residential units in two separate project areas, which would be implemented in two phases (Phase 1 south site, and Phase 2 north site). Additional detail on the proposed project is included in Section 4.0, *Project Related Impacts*.

1.2 STUDY AREA

The study area analyzed for this analysis consists of 745.0 acres west of Ortega Highway and west of the town of El Cariso at the intersection of Ortega Highway and Long Canyon Road (**Figure 1**, *Regional Map*). The study area straddles the Orange and Riverside County boundary west of El Cariso Village in the Cleveland National Forest, Santa Ana Mountains. The Riverside County portion of the study area is within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

The Nilson parcel consists of 203.8 acres within the western half of Section 17, T. 6 S., R. 5 W., of the U.S. Geological Survey (USGS) 7.5' Alberhill quadrangle map as shown in **Figure 2**, *Vicinity Map*. The Nilson parcel consists of gently sloping terrain in the southern portion of the parcel to steep, rugged terrain in the northern portion of the parcel. Elevations range from 2,460 to 3,360 feet above mean sea level (msl). The majority of the parcel is undisturbed and supports dense chaparral habitat, as well as scattered patches of oak woodland. One USGS blueline stream, Long Canyon Creek, crosses the southwest corner of the parcel. Disturbance is limited to a network of dirt roads and trails, an airstrip, and one occupied residence. Surrounding land use includes rural residential development to the east and west and open space to the north and south. Refer to **Figure 3**, *Aerial Photograph*, for an aerial view of the study area.

The Sanchez parcel consists of 438.9 acres within Sections 19 and 20, T. 6 S., R. 5 W., of the USGS 7.5' Alberhill quadrangle map as shown in Figure 2, *Vicinity Map*. The Sanchez parcel consists of gently sloping terrain in the northeast portion of the parcel to steep, rugged terrain in the remainder of the parcel. Elevations range from 2,020 to 3,040 feet above msl. The majority of the parcel is undisturbed and supports dense chaparral habitat with large rock outcroppings and significant areas of oak woodland and forest habitat. Two USGS blueline streams occur on-site. One of the USGS blueline streams is Long Canyon Creek, which crosses the northeast corner of the parcel. The second, an unnamed blueline stream, bisects the center of the parcel from north to south. Disturbance is limited to a network of dirt roads and trails throughout the parcel and a small abandoned house in the northeast corner of the parcel. Surrounding land use includes open space in all directions.

The USFS parcel consists of 94.7 acres within Sections 19, 20, and 29, T. 6 S., R. 5 W., of the USGS 7.5' Alberhill quadrangle map (Figure 2, *Vicinity Map*). The USFS parcel consists of gently sloping terrain in the northern portion of the parcel to steep, rocky, rugged terrain in the southern portion of the parcel. Elevations range from 2,200 to 2,900 feet above msl. The parcel is undisturbed with the exception of a portion of the paved Long Canyon Road (also known as Main Divide Truck Trail) in the northern portion of the parcel and supports dense chaparral habitat, as well as scattered patches of oak woodland. Surrounding land use includes open space in all directions.

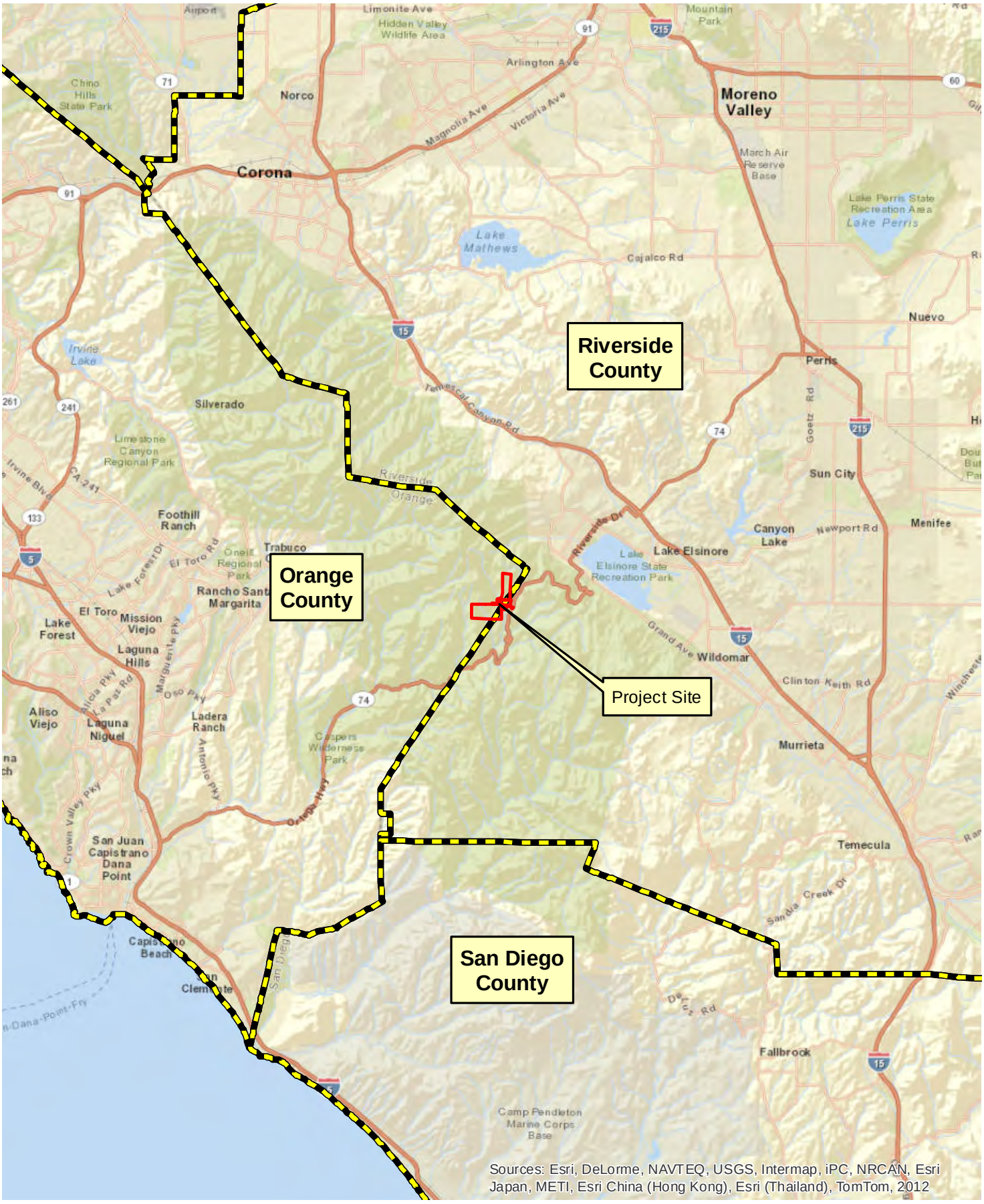
The off-site portion of the study area consists of Long Canyon Road improvements in the central portion of the study area encompassing approximately 7.6 acres within Sections 19 and 20, T. 6 S., R. 5 W, of the USGS 7.5' Alberhill quadrangle map (see Figure 2, *Vicinity Map*). Long Canyon Road is a paved road surrounded by oak woodlands near Ortega Highway, then transitions to chaparral communities along the road. One unnamed USGS blueline streams crosses the road within the eastern portion of the off-site area, near Ortega Highway.

The Orange County portion of the study area is located within the Southern Subregion Natural Communities Conservation Plan (SSNCCP); however, is outside of the Rancho Mission Viejo planning area and therefore not subject to the policies set forth in the SSNCCP. The Riverside County portions of the study area, totaling 109.6 acres, are within the central western portion of the Elsinore Area Plan of the MSHCP [Riverside County Integrated Project (RCIP) 2003, Dudek & Associates (Dudek) 2003].

1.3 SCOPE OF STUDY

The scope of this assessment encompasses the comprehensive documentation of existing biological resources within the study area. An extensive literature review initialized the study. The results of the literature review provided information on species and habitat occurrences within the vicinity, laws and regulations pertaining to these resources, and additional background information. A biological constraints analysis followed which included a site visit. The biological constraints analysis concluded the potential for the study area to support sensitive plant species, sensitive amphibian species, significant oak woodlands, and areas potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB). A series of focused field investigations were conducted including plant community mapping, sensitive plant surveys, a focused amphibian habitat assessment, and focused fairy shrimp surveys. A jurisdictional delineation of areas regulated by the USACE, RWQCB, and CDFW was conducted by Glenn Lukos Associates (GLA 2008, 2013), and a tree survey was conducted by Dudek & Associates (Dudek 2008, 2013).

This document also addresses project-related impacts associated with the proposed project as well as recommendations regarding measures to alleviate any potentially significant adverse impacts to a level below significant. This documentation is consistent with accepted scientific, technical, and professional standards pursuant to the CEQA, U.S. Fish and Wildlife Service (USFWS), and CDFW, where appropriate. While general biological resources are discussed in a comprehensive manner, the focus of this assessment is on those resources considered to be sensitive.



PCR

N

0 5 10 Miles

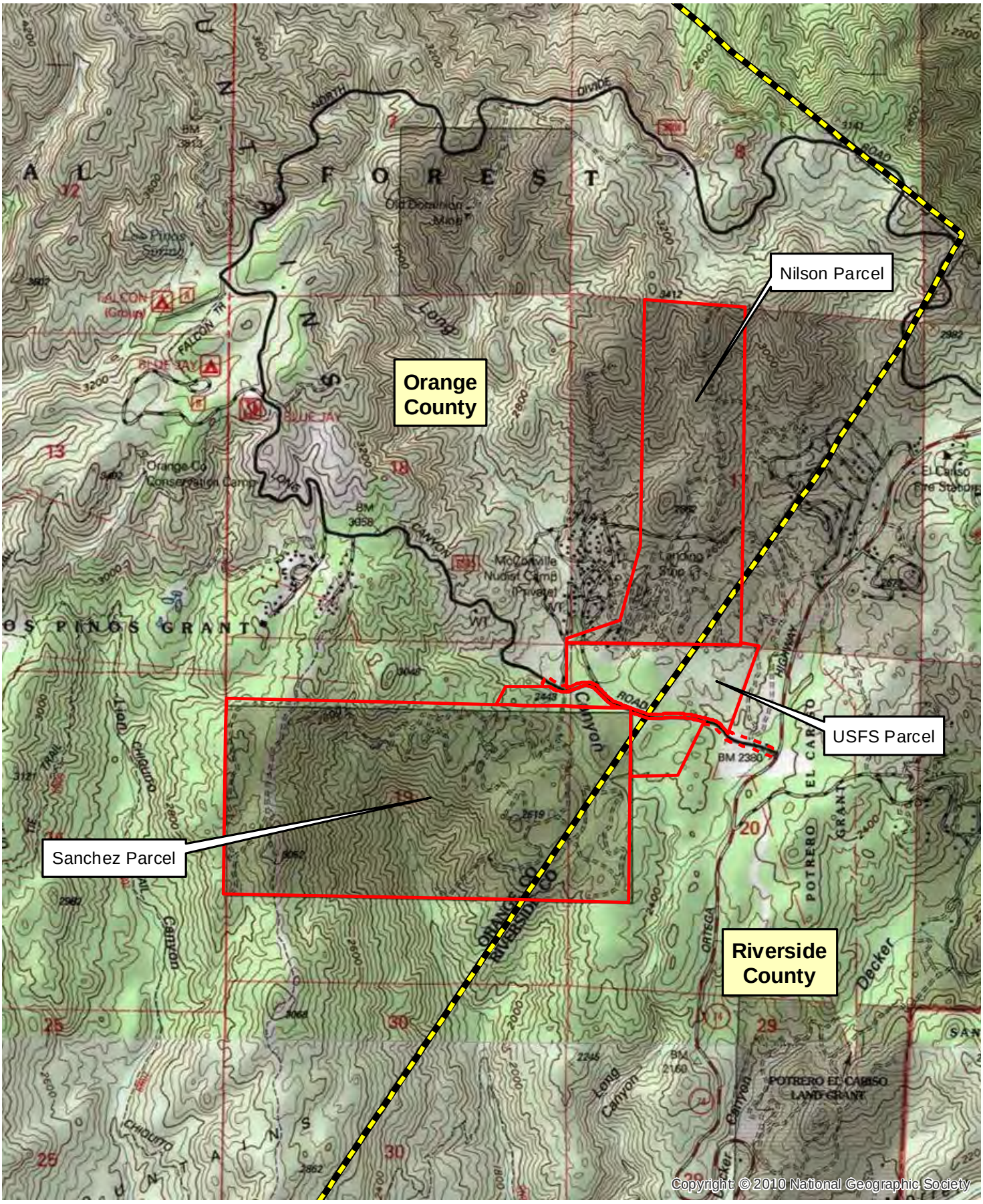
Regional Map

The Preserve

Source: ESRI Street Map, 2009; PCR Services Corporation, 2013.

FIGURE

1



PCR

N

0 2,000 4,000 Feet

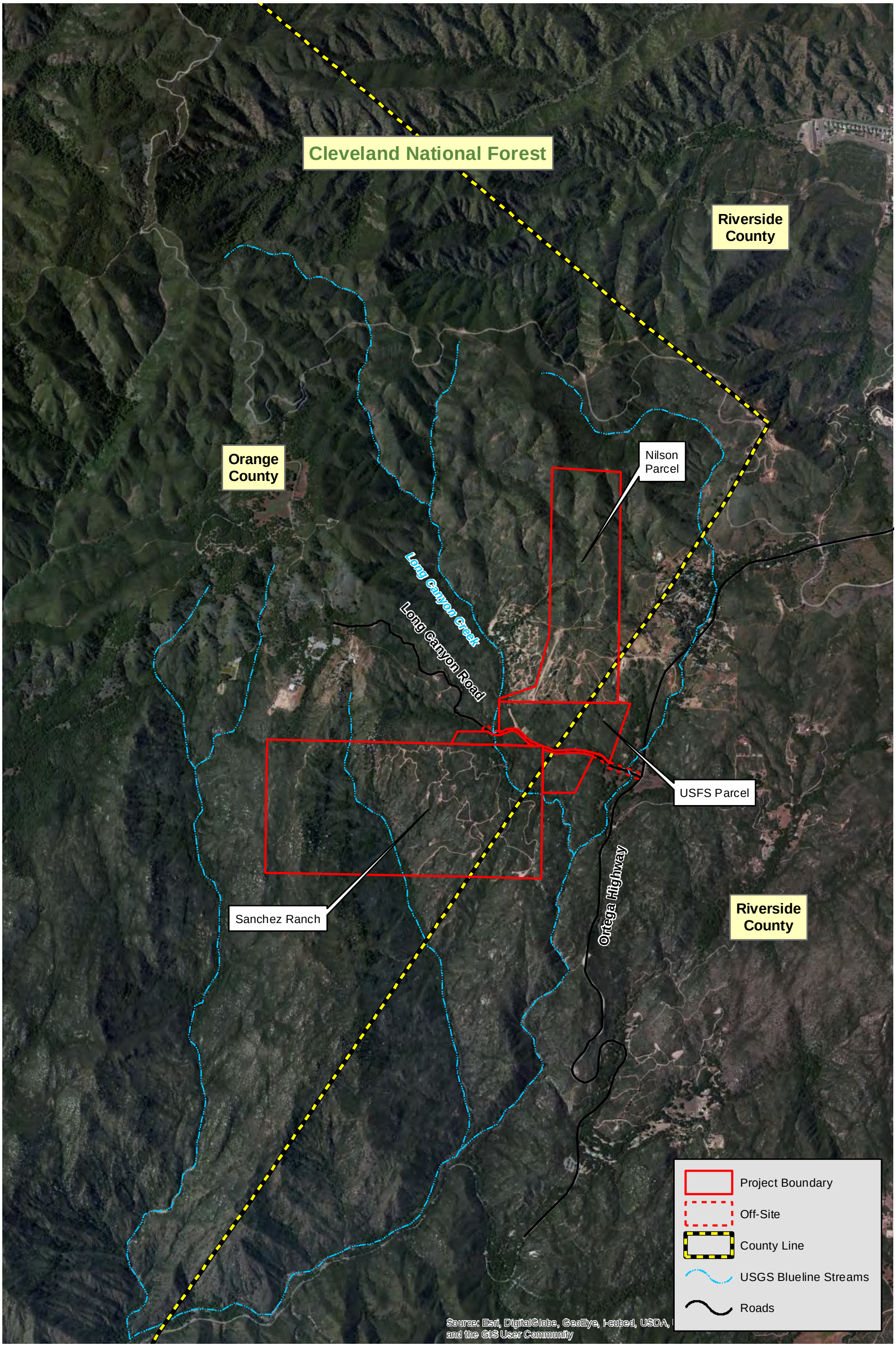
Vicinity Map

The Preserve

Source: USGS Topographic Series (Alberhill, Sitton Peak, CA); PCR Services Corporation, 2013.

FIGURE

2



PCR

N

0 2,000 4,000 Feet

Aerial Photograph

The Preserve

Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

3

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2.0 METHODS OF STUDY

2.1 APPROACH

This assessment of biological resources is based on information compiled through field reconnaissance, focused surveys, and appropriate reference materials. The study area was first visited by PCR biologists on December 13, 2004 to conduct the biological constraints analysis. Formal survey work followed between March 29, 2005 and June 5, 2008 and included mapping the plant communities, conducting a habitat assessment for sensitive amphibians, conducting sensitive plant surveys, conducting fairy shrimp surveys, and assessing the potential for the study area to support other sensitive species and/or habitats, as documented in the 2008 Biological Resources Assessment (PCR 2008). Most recently, surveys were conducted between May 17, 2012 and May 15, 2013 to update the previous field work and to bring surveys current, including focused surveys for sensitive plants and fairy shrimp and are included within this report, which is an update to the 2008 Biological Resources Assessment.

2.2 LITERATURE REVIEW

The study began with a review of relevant literature on the biological resources of the study area and the surrounding vicinity. Initially, the California Natural Diversity Database (CNDDB), a CDFW sensitive resources account database, was reviewed for all pertinent information regarding the locations of known observations of sensitive species and habitats in the vicinity of the study area, including the USGS Alberhill topographic quadrangle map, as well as surrounding quadrangles (Corona South, Lake Mathews, Steele Peak, Santiago Peak, Lake Elsinore, Cañada Gobernadora, Sitton Peak, and Wildomar). Federal register listings, protocols, and species data provided by the USFWS, CDFW, USFS, and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants were reviewed in conjunction with anticipated Federal and State listed species potentially occurring within the vicinity. In addition, numerous regional flora and fauna field guides were utilized to assist in the identification of species and suitable habitats, as well as the MSHCP. These and all pertinent references used are listed in Section 7.0, *References*.

2.3 FIELD INVESTIGATIONS

Field investigations were completed in 2004, 2005, 2006, and 2008. PCR's survey work was conducted between December 13, 2004 and June 5, 2008 by PCR biologists Kristin Szabo, Linda Robb, Crysta Dickson, Jason Berkley, Robert Freese, Jenni Snibbe, Susan Anon, Stephanie Picha, Miriam Hermann, Chris Jones, Sundeep Amin, Maile Tanaka, and Erin Hardison. In addition, a site visit was conducted by Maile Tanaka and Ezekiel Cooley on June 23, 2010 for the Beaulieu property, which consisted of the approximately 82-acre Riverside County portion of the Sanchez parcel. More recently, field investigations were conducted between May 17, 2012 and May 15, 2013 by PCR biologists Ceri Williams-Dodd, Maile Tanaka, Ezekiel Cooley, Bob Huttar, Florence Chan, and Amy Lee to update site conditions and bring surveys current. The jurisdictional delineation was conducted by GLA in 2007 (GLA 2008) and updated in 2013 (GLA 2013),[1] and a tree survey was conducted by Dudek in 2008 and updated in 2013 (Dudek 2013).[2]

[1] *It should be noted, surveys were updated only for those jurisdictional features within the impact footprint and encompasses an approximately 340-acre area. All areas outside of the current impact footprint were not updated and the original data from the 2008 report is used.*

[2] *It should be noted, tree surveys were updated only for the project area encompassing approximately 583 acres.*

Survey coverage of the entire study area, with special attention to sensitive habitats or those areas potentially supporting sensitive flora or fauna, was ensured using a color aerial photograph (1"=300' and 1"=400'), site-specific topography, and a USGS topographic map.

2.3.1 Plant Community Mapping

Plant communities were mapped directly in the field utilizing 300-scale (1"=300') and 400-scale (1"=400') aerial photographs and a 7.5' USGS topographic map. Color aerial photographs and project boundaries were provided digitally by the Applicant. Plant community names and descriptions follow the Orange County Habitat Classification System (OCHCS) (Gray and Bramlet 1992) and Sawyer and Keeler-Wolf (2009). After completing the fieldwork the plant community polygons were digitized using Geographic Information System (GIS) technology to calculate acreages.

2.3.2 General Plant Inventory

All plant species observed during surveys were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Baldwin (2012). Common plant names were taken from Baldwin (2012), Clarke (2007), Munz (1974), McAuley (1996), or Roberts (2008). Because common names vary significantly between references, scientific names are included upon initial mention of each species; common names consistent throughout the report are employed thereafter. All plant species observed are included in Appendix A, *Floral and Faunal Compendium*. Sensitive plant species are discussed below in Section 2.3.3, *Sensitive Plant Surveys*.

2.3.3 Sensitive Plant Surveys

Sensitive plants include those listed by the USFWS, CDFW, USFS, and CNPS (particularly ranks 1A, 1B, and 2). A literature review was conducted to determine the sensitive plant species that have the potential to occur within the study area. Sources included the CNDDB, CNPS Online Inventory of Rare and Endangered Plants, and the MSHCP. The study area is within Area 9 of the MSHCP's Narrow Endemic Plant Species Survey Area; therefore a habitat assessment was required for many-stemmed dudleya (*Dudleya multicaulis*), California Orcutt grass (*Orcuttia californica*), spreading navarretia (*Navarretia fossalis*), San Miguel savory (*Satureja chandleri*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii*). Sensitive plant species reported in the CNDDB and CNPS from the vicinity of the study area were also the focus of sensitive plant surveys. A list of sensitive plant species with potential to occur is included in Section 3.8.3, *Sensitive Plant Species*.

Sensitive plant surveys were conducted within the study area on April 11, May 19, and June 20, 2005, April 19 and June 29, 2006, and June 5, 2008 by PCR biologists Kristin Szabo, Linda Robb, Crysta Dickson, Susan Anon, Robert Freese, Miriam Herrmann, Stephanie Picha, Jenni Snibbe, Chris Jones, Erin Hardison, Sundeep Amin, and Maile Tanaka. More recently, updated sensitive plant surveys were conducted within the study area on May 17, June 7, August 3 and 22, 2012 and March 19 and 22, 2013 by PCR biologists Ceri Williams-Dodd, Maile Tanaka, Ezekiel Cooley, Bob Huttar, Florence Chan, and Amy Lee. Methods employed included slowly walking over all accessible portions of the study area. In areas which were not accessible (e.g., due to dense, impassible vegetation and steep terrain which would jeopardize the safety of the surveyors), binoculars were used to identify the shrubs present and observe if any edges or open areas where understory species could grow were located in the inaccessible areas. It should be noted that the inaccessible areas (e.g., particularly within the northernmost portion of the Nilson parcel and the

westernmost portion of the Sanchez parcel) consisted mostly of dense chamise chaparral. This community is dominated by almost monotypic stands of dense chamise (*Adenostoma fasciculata*) shrubs with little to no understory, as limited light passes through this dense shrub canopy. It should also be noted that the proposed project's development footprint is located within the flatter and more disturbed portions of the study area, which were accessible by a network of dirt roads. Surveys were conducted in accordance with the CNPS botanical survey guidelines (CDFW 2009, CNPS 2001a, USFWS 2000). If detected, the Universal Transverse Mercator (UTM) coordinates corresponding to the location of the sensitive plant was collected with a Global Positioning System (GPS) unit. The number of individuals in each population was estimated, and information on habitat type and associated species was recorded.

2.3.4 General Wildlife Inventory

All wildlife species observed during the field survey by sight, call, tracks, nests, scat (fecal droppings), remains, or other sign were recorded. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. All wildlife species observed within the study area, as well as diagnostic signs were recorded in field notes. In addition to species actually detected, expected use of the study area by other wildlife was derived from the analysis of habitats within the study area combined with known habitat preferences of regionally-occurring wildlife species. The study area is not within the MSHCP Amphibian Species Survey Area,[3] Burrowing Owl Survey Area, or Mammal Species Survey Area.

Wildlife taxonomy follows Stebbins (2003) for amphibians and reptiles, the American Ornithologists' Union (1998) for birds, and Jameson and Peeters (2004) for mammals. Scientific names are used during the first mention of a species; common names only are used in the remainder of the text. A list of all wildlife species detected within the study area is included in Appendix A, *Floral and Faunal Compendium*. Sensitive wildlife species are discussed below in Section 2.3.5, *Sensitive Wildlife Surveys*.

2.3.5 Sensitive Wildlife Surveys

2.3.5.1 Fairy Shrimp

Five seasonal ponds (referred to as Seasonal Ponds 1 through 5) occur within the Orange County portion of the Nilson parcel that encompass approximately 0.2 acre (refer to **Figure 4**, *Location of Seasonal Ponds*). In order to determine the presence/absence of the federally-listed as endangered vernal pool branchiopod species Riverside fairy shrimp (*Streptocephalus woottoni*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*), focused surveys were conducted. In accordance with the USFWS *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* (1996), one wet season survey and one dry season survey were completed in 2005-2006 for all five ponds (PCR 2006, 2007), and one wet season survey was conducted in 2012-2013 for Seasonal Ponds 2 and 3 since these were the only two ponds which inundated (PCR 2013).[4] Details of the

[3] *It should be noted that a portion of the previous study area analyzed in the 2008 Biological Resources Assessment was within the MSHCP Amphibian Species Survey Area (APN 385-260-020); therefore, a focused habitat assessment was conducted for the arroyo toad (Anaxyrus californicus) on April 6 and August 10, 2005 by PCR biologists Jason Berkley, Crysta Dickson, and Kristin Szabo. However, this APN is no longer included in the current study area boundary and therefore, the current study area is not within the MSHCP Amphibian Species Survey Area.*

[4] *It should be noted that only two ponds, Seasonal Ponds 2 and 3, inundated during the 2012-2013 wet season surveys. However, it is not believed that inundation of Seasonal Ponds 2 and 3 were a result of the recent precipitation events. Rather, information received from a resident on-site following initiation of surveys indicated that Seasonal Pond 2 was filled as a result of vandalism to an*

surveys are summarized below. At the request of the USFWS, a dry season survey will be conducted in summer 2013 for Seasonal Ponds 1, 4, and 5, as described below, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season.

Wet Season

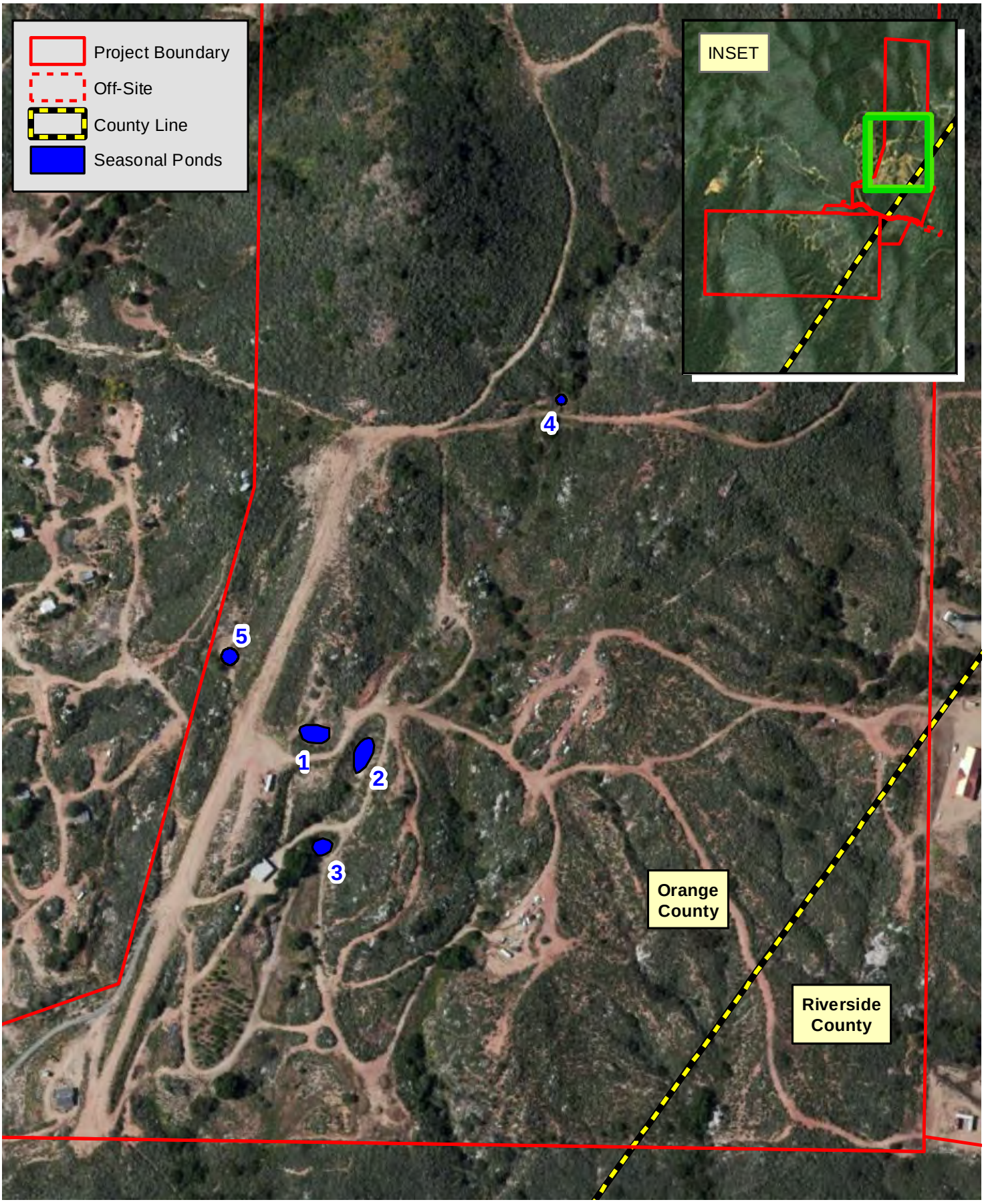
Wet season surveys were performed by PCR biologist Crysta Dickson (TE067347-3) with assistance from PCR biologists Maile Tanaka, Stephanie Gasca, Linda Robb, and Ryan Henry (TE031848-0) on November 2, 16, 30 and December 14, 28, 2005, and January 11, 16, 25, and 30; February 8, 13, 22, and 27; March 13 and 27; April 10 and 24; and May 8 and 22, 2006. Mountains and Recreation Conservation Authority Biologist Judi Tamasi assisted surveying efforts on May 8, 2006. The first survey occurred following approximately 1.15 inches of accumulated wet season precipitation from October 1 through November 2, 2005. PCR biologist Crysta Dickson (TE067347-4) conducted an update of the wet season surveys on December 21, 2012, and January 4 and 18; February 1 and 15; March 1, 15, and 29; and April 12, 2013.

During each visit, the seasonal ponds were inspected for level of inundation, surface area of pool, air and water temperature, and level of disturbance. Water quality measurements were collected including total dissolved solids (TDS), electrical conductivity (EC), and acidity (pH). Water quality measurements for TDS, EC, and pH were obtained with the use of a Hanna HI98129 hand-held unit. Representative vegetation occurring within the seasonal ponds and surrounding watershed were recorded. Photographs of the ponds were taken during each visit.

Testing for the presence of aquatic wildlife was performed with the aid of an aquarium or invertebrate net. The net was passed through nearly all portions of the seasonal pond that retained water at least three centimeters in depth at the time of surveying. If fairy shrimp were observed within the pond, samples were collected using the appropriate net, stored, and inspected in the laboratory pursuant to established protocol.

Detailed methodology and results of the wet season surveys were submitted to the USFWS Carlsbad Office and can be found under separate cover in the *Results of Focused Wet Season Vernal Pool Branchiopod Surveys on the Preserve at San Juan, Orange County, California* (PCR 2006) and *Results of Focused Wet Season Vernal Pool Branchiopod Surveys for the Preserve Project Site, Orange and Riverside Counties, California* (PCR 2013).

adjacent water tank in September 2012, which caused the tank to empty and fill the pond. It was also discovered that Seasonal Pond 3, which was being fed through a spicket-controlled corrugated pipe, had been inundated for several months or possibly longer. It is unclear when Seasonal Pond 3 was last allowed to dry up. PCR consulted with the USFWS for guidance on whether dry season surveys would be required for Seasonal Ponds 2 and 3, which were perennially ponded. Per the recommendation of the USFWS, dry season surveys on Seasonal Ponds 2 and 3 were not recommended since they were perennially ponded due to human activities. The remaining three seasonal ponds (Seasonal Ponds 1, 4, and 5) did not retain more than 3 centimeters of standing water during the sampling effort; therefore, in accordance with protocol, surveys could not be initiated for these ponds during the 2012/2013 wet season. However, the USFWS advised that dry season surveys be conducted on Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season. Should Branchinecta cysts be identified during the dry season survey that will be conducted in summer 2013, the USFWS recommends additional wet season surveys be conducted during the 2013-2014 wet season to determine whether any listed fairy shrimp occur on-site (e.g., versus the common species of fairy shrimp Branchinecta lindahli).



PCR

N

0 300 600 Feet

Location of Seasonal Ponds

The Preserve

Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

4

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Dry Season

The 2006 dry season survey was performed by PCR biologists Crysta Dickson (TE067347-3), Maile Tanaka, and Linda Robb on September 6 and October 13, 2006. The dry season sampling effort included collecting soil samples from each pond feature and documenting empirical observations as directed by USFWS protocol (USFWS 1996). In accordance with 1996 USFWS protocol, two transects were established across the widest portions of each seasonal pond in north-south and east-west orientations ensuring that samples were collected from the deepest portions of the features. Soil samples were collected from the top centimeter (cm) or one cm below overburden. Ten soil samples were collected from each pond, except where removing such a quantity would have a detrimental effect on the habitat. Soil samples were transported to PCR's laboratory, cataloged, and then sieved. The samples were prepared for examination in the laboratory by dissolving the clumps of soil in water and sequentially sieving the material through 500-, 300-, and 150-micron pore-size screens. The screens were then rinsed with approximately 100 milliliters of a saturated brine solution. The material floating on the brine solution was decanted onto a paper filter and water was removed via vacuum suction. The material left on the filter was examined under a BioQuip 660 Series Stereo Zoom microscope. Distinctive branchiopod cysts, if present, were identified to genus using the microscope.

Detailed methodology and results of the dry season surveys were submitted to the USFWS Carlsbad Office and can be found under separate cover in the *Results of Focused Dry Season Vernal Pool Branchiopod Surveys on the Preserve at San Juan, Orange and Riverside Counties, California* (PCR 2007).

PCR biologist Crysta Dickson (TE067347-4) will conduct an update of the dry season surveys in summer 2013. Per the recommendation of the USFWS, dry season surveys on Seasonal Ponds 2 and 3 were not recommended since they were perennially ponded due to human activities.[5] However, the USFWS advised that dry season surveys be conducted on Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season. Should *Branchinecta* cysts be identified during the dry season survey that will be conducted in summer 2013, the USFWS recommends additional wet season surveys be conducted during the 2013-2014 wet season to determine whether any listed fairy shrimp occur on-site (e.g., versus the common species of fairy shrimp *Branchinecta lindahli*).

2.3.6 Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement corridors associated with the study area and its immediate vicinity is based on information compiled from the literature and analysis of aerial photographs and topographic maps. In general, little quantitative data exists on the movements of animals through corridors. A literature review was conducted that included documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed (Dudek & Associates 2003; South Coast Wildlands 2001, 2008). The relationship of the study area to large open space areas in the immediate vicinity (i.e., Cleveland National Forest) was also evaluated in terms of connectivity and habitat

[5] *PCR consulted with the USFWS for guidance on whether dry season surveys would be required for Seasonal Ponds 2 and 3, which were perennially ponded. Per phone and email correspondence with USFWS representative Susie Tharratt on August 1, 2013, dry season surveys on Seasonal Ponds 2 and 3 were not recommended since they were perennially ponded due to human activities. However, the USFWS advised that dry season surveys be conducted on Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season.*

linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated with the study area and the immediate vicinity.

The focus of this study is to determine if the alteration of current land use within the study area will have significant impacts on the regional movement of wildlife. This study did not include the use of track plates, camera stations, scent stations, or snares. Instead, notation was made during field visits of locations of animal sign and inspection of CNDDB occurrences maps for the vicinity. The corridor analysis is based on the knowledge of desired topography and resource requirements for wildlife potentially utilizing the study area and vicinity.

2.3.7 Jurisdictional Delineation of Wetlands and "Waters of the U.S."

An investigation of jurisdictional wetlands and "waters of the U.S." was conducted by Glenn Lukos Associates to determine the location and extent of areas regulated by the USACE, RWQCB, and CDFW under Sections 401 and 404 of the Clean Water Act and Section 1602 of the State Fish and Game Code, respectively. Glenn Lukos Associates regulatory specialists conducted a jurisdictional delineation over an approximately 930.6-acre study area on December 5, 6, and 11, 2007, and February 26, 2008 (GLA 2008).[6] More recently, on May 23, June 3, and July 1, 2013, Glenn Lukos Associates regulatory specialists re-examined the study area and updated the jurisdictional delineation to reflect current site conditions within the updated project impact footprint only, encompassing an approximately 340-acre study area (referred to in this report as the "340-acre study area"). Detailed methodology is available in **Appendix B**, *Jurisdictional Delineation* (GLA 2013).

2.3.8 Regulated Tree Survey

Dudek & Associates conducted an inventory and evaluation of native trees. Dudek & Associates arborists conducted tree surveys over an approximately three year period between May 2005 and March 2008 for an approximately 930-acre area. More recently, on May 28, 29, and June 28, 2013, Dudek & Associates arborists conducted updated tree surveys to reflect current site conditions within the updated project impact footprint and a 200-foot buffer only (referred to in this report as the "tree inventory study area"). All trees of regulated size (5 inches in diameter at breast height (DBH) for trees within the Orange County portion, and 2 inches DBH for trees within the Riverside County portion of the tree inventory study area) were individually inventoried and evaluated. Trees outside of the tree inventory study area, which will not be disturbed by the proposed project, were evaluated by woodland sampling efforts to attain tree quantity estimates and overall stand attributes for these woodlands. Detailed methodology is available in **Appendix C**, *Tree Management and Preservation Plan* (Dudek 2013).

[6] *It should be noted that the jurisdictional delineation conducted in 2007-2008 was based on regulatory requirements of the time. Since then, there have been court cases and new regulations issued to provide further guidance on delineation methodology which have changed the regulatory requirements. Thus, although the 2008 Jurisdictional Delineation report provides background on the existing resources within the overall study area for the proposed project, the 2013 Jurisdictional Delineation report replaces the previous report and was used in the analysis of jurisdictional features for this Biological Resources Assessment, as it reflects current site conditions within the project impact footprint (that is contained within the 340-acre study area) and the updated field delineation was conducted in accordance with the most current regulations.*

3.0 EXISTING CONDITIONS

3.1 CHARACTERISTICS OF THE STUDY AREA

As mentioned previously in Section 1.0, *Introduction*, The Preserve study area consists of 745.0 acres (737.4 acres on-site and 7.6 acres off-site). The majority of the study area lies west of Ortega Highway near El Cariso Village within the eastern portion of the Santa Ana Mountains and Cleveland National Forest. The Nilson parcel and Sanchez parcel are privately-owned and surrounded by federal land managed by the USFS. The USFS parcel is federally-owned land that is currently part of the Cleveland National Forest. The off-site portion of the study area totals 7.6 acres and consists of Long Canyon Road improvements. The majority of the study area is undisturbed and supports dense chaparral habitat with north-south trending drainages supporting mature coast live oak riparian forest or woodland. Disturbance in the form of dirt roads, a landing strip, firebreaks, and residences (both occupied and abandoned) occur within the study area.

Three USGS blueline streams occur within the study area. One blueline stream, Long Canyon Creek (also referred to in this report as Drainage A), crosses the southwest corner of the Nilson parcel, the northeast corner of the Sanchez parcel, then flows off-site to its confluence with San Juan Creek more than one mile downstream of the southern study area boundary (see Figure 3, *Aerial Photograph*). A second blueline stream, which is unnamed (referred to in this report as Drainage B), bisects the Sanchez parcel from north to south and also confluences with Long Canyon Creek and San Juan Creek approximately one mile downstream of the southern study area boundary. A third blueline stream, which is unnamed (referred to in this report as Drainage C), crosses the road within the eastern portion of the off-site area, near Ortega Highway. Surrounding land use consists of rural residential development to the east; Blue Jay Campground, Los Pinos Conservation Camp, and USFS Hotshots residences to the northwest; and the open space of the Cleveland National Forest in all directions.

3.2 PLANT COMMUNITIES

Descriptions of each of the plant communities found within the study area are provided below. Plant community names and descriptions follow the Orange County Habitat Classification System (OCHCS) (Gray and Bramlet 1992). If a community did not conform to any of the communities in the OCHCS, it was named after the dominant species found within it (e.g., Deerweed Series). **Table 1**, *Plant Communities*, list the acreages of each of the plant communities mapped, and **Figure 5**, *Plant Communities*, depict their location. Representative photographs of plant communities are shown in **Figures 6a and 6b**, *Site Photographs*.

Black sage scrub (OCHCS 2.3.4) comprises approximately 1.5 acres on-site in the southwestern portion of the Nilson parcel. Black sage scrub is dominated by black sage (*Salvia mellifera*) with California buckwheat (*Eriogonum fasciculatum*) as a sub-dominant species. Associated species include chaparral yucca (*Hesperoyucca whipplei*), chamise, and deerweed (*Acmispon glaber* var. *glaber*). Understory species include foxtail chess (*Bromus madritensis* ssp. *rubens*), telegraph weed (*Heterotheca grandiflora*), and rattail fescue (*Vulpia myuros*).

Buckwheat scrub (OCHCS 2.3.7) occupies approximately 0.8 acre along the southwestern boundary of the Nilson parcel, 0.2 acre within the south-central portion of the Sanchez parcel, and 0.1 acre off-site. Buckwheat scrub is dominated by California buckwheat. Associated shrub species include black sage,

Table 1

Plant Communities

Plant Community	Nilson Parcel	Sanchez Parcel	USFS Parcels	Off-Site	Total
Black Sage Scrub	1.5	-	-	-	**1.5**
Buckwheat Scrub	0.8	0.2	-	0.1	**1.1**
Buckwheat Scrub/Hoaryleaf Ceanothus Chaparral	-	1.2	-	-	**1.2**
Chamise Chaparral	158.2	340.2	87.4	1.9	**587.7**
Chamise Chaparral/Rock Outcrop	6.3	32.2	-	-	**38.5**
Deerweed Series	-	1.7	-	-	**1.7**
Hoaryleaf Ceanothus Chaparral	-	12.5	0.8	0.5	**13.8**
Scrub Oak Chaparral	13.6	-	0.1	-	**13.7**
Scrub Oak Chaparral/Ornamental	0.1	-	-	-	**0.1**
Scrub Oak Chaparral/Coast Live Oak Woodland	0.5	-	-	-	**0.5**
Coast Live Oak Woodland	1.5	32.8	4.5	2.1	**40.9**
Coast Live Oak Forest	-	4.4	-	-	**4.4**
Southern Willow Scrub	0.2	-	-	-	**0.2**
Mule Fat Scrub	0.1	-	-	0.1	**0.2**
Cattail Stand	<0.1	-	-	-	**<0.1**
Non-Native Grassland	0.4	0.2	-	0.6	**1.2**
Non-Native Grassland/Deerweed Series	0.4	-	<0.1	-	**0.4**
Non-Native Grassland/Rock Outcrop	0.3	-	-	-	**0.3**
Non-Native Grassland/Black Sage Scrub	<0.1	-	-	-	**<0.1**
Ruderal	0.5	-	-	-	**0.5**
Ruderal/Chamise Chaparral	0.2	-	-	-	**0.2**
Ruderal/Deerweed Series	1.1	-	-	-	**1.1**
Ruderal/Non-Native Grassland	0.1	-	-	-	**0.1**
Disturbed	17.0	13.5	1.0	0.1	**31.6**
Disturbed/Non-Native Grassland	0.2	-	-	0.1	**0.3**

Table 1 (Continued)

Plant Communities

Plant Community	Nilson Parcel	Sanchez Parcel	USFS Parcels	Off-Site	Total
Disturbed/Coast Live Oak Woodland	0.1	-	-	-	**0.1**
Disturbed/Deerweed Series	-	-	0.9	0.1	**1.0**
Orchard	0.7	-	-	-	**0.7**
Developed	-	-	-	2.0	**2.0**
TOTAL	**203.8**	**438.9**	**94.7**	**7.6**	**745.0**

Source: PCR Services Corporation, 2013.

common sandaster (*Corethrogyne filaginifolia*), chamise, deerweed, laurel sumac (*Malosma laurina*), and chaparral yucca. Understory species include popcorn flower (*Plagiobothrys* sp.), foxtail chess, black mustard (*Brassica nigra*), tocalote (*Centaurea melitensis*), California everlasting (*Pseudognaphalium californicum*), needlegrass (*Stipa* sp.), smilo grass (*Piptatherum miliaceum*) and smooth cat's-ear (*Hypochaeris glabra*).

Buckwheat scrub/hoaryleaf ceanothus chaparral (OCHCS 2.3.7/3.4) consists of 1.2 acres in the northeastern portion of the Sanchez parcel. This community contains the dominant species of both buckwheat scrub and hoaryleaf ceanothus (*Ceanothus crassifolius*) chaparral (hoary leaf ceanothus chaparral is described below).

Chamise chaparral (OCHCS 3.3) is the dominant plant communities within the study area. This plant community is dominated by chamise with black sage as a sub-dominant. Associated species include hoary-leaf ceanothus, chaparral yucca, orange-bush monkeyflower (*Mimulus aurantiacus*), bigberry manzanita (*Arctostaphylos glauca*), scrub oak (*Quercus berberidifolia*), laurel sumac, California buckwheat, and wild cucumber (*Marah macrocarpus*). The canopy cover is very dense and the understory consists mostly of bare ground and leaf litter. Chamise chaparral comprises 585.8 acres on-site (158.2 acres throughout the Nilson parcel, 340.2 acres in the northeast corner of the Sanchez parcel, and 87.4 acres in the northern portion of the USFS parcels), and 1.9 acres off-site. After surveys were completed, a portion of the USFS parcels (i.e., the USFS parcel north of Long Canyon Road) was burned due to prescribed fires.[7] However, chamise chaparral is a community that is adapted to periodic fires and therefore is expected to regenerate naturally and re-establish to the pre-burn conditions, which were previously mapped.

Chamise chaparral/rock outcrop (OCHCS 3.3/10.3) occupies 38.5 acres on-site (6.3 acres scattered in the southern half of the Nilson parcel and 32.2 acres throughout the Sanchez parcel).

Deerweed series (OCHCS n/a) occurs in areas that have been disturbed, particularly along the dirt roads on the Sanchez parcel. A total of 1.7 acres of deerweed series was mapped throughout the eastern half of the Sanchez parcel. The dominant species in this community is deerweed. Associated species include rattail fescue (*Vulpia myuros*) and foxtail chess with scattered black sage and saw-tooth goldenbush (*Hazardia squarrosa*).

Hoaryleaf ceanothus chaparral (OCHCS 3.4) is dominated by hoaryleaf ceanothus. Associated species include black sage, chamise, California sagebrush (*Artemisia californica*), caterpillar phacelia (*Phacelia cicutaria*), and laurel sumac. Hoaryleaf ceanothus chaparral consists of a dense canopy cover with an understory consisting mostly of bare ground and leaf litter. A total of 13.8 acres of hoaryleaf ceanothus chaparral occur within the study area (12.5 acres in the eastern portion of the Sanchez parcel, 0.8 acre in the northwestern portion of the USFS parcel, and 0.5 acre off-site).

Scrub oak chaparral (OCHCS 3.7) is dominated by scrub oak. Laurel sumac, hoaryleaf ceanothus, and toyon (*Heteromeles arbutifolia*) occur as subdominant species. Associated species include chamise, California peony (*Paeonia californica*), wild sweet pea (*Lathyrus vestitus*), poison oak (*Toxicodendron diversilobum*), skunkbush (*Rhus trilobata*), virgin's bower (*Clematis ligusticifolia*), southern honeysuckle (*Lonicera*

[7] *It should be noted that after surveys were completed, the USFS parcel north of Long Canyon Road was burned due to prescribed fires set by the USFS fire crews for training purposes. The majority of the approximately 64.4-acre USFS parcel was burned (only the northern USFS parcel was burned; the western and southern USFS parcels located to the south of Long Canyon Road were not burned). However, there was evidence of native plant growth since the burn, and because chaparral communities are adapted to fire, the native communities are expected to re-establish to the pre-burn conditions which were previously mapped.*

Project Boundary

Off-Site

County Line

Vegetation Communities

BSS - Black Sage Scrub

BUC - Buckwheat Scrub

BUC/CEC - Buckwheat Scrub / Hoaryleaf Ceanothus Chaparral

CAT - Cattail Stand

CCH - Chamise Chaparral

CCH/RO - Chamise Chaparral / Rock Outcrop

CEC - Hoaryleaf Ceanothus Chaparral

CLORF - Coast Live Oak Riparian Forest

D - Disturbed

D/DEW - Disturbed / Deerweed Series

D/NNG - Disturbed / Non-native Grassland

D/OW, Disturbed / Coast Live Oak Woodland

DEV - Developed

DEW - Deerweed Series

MFS - Mule Fat Scrub

NNG - Non-native Grassland

NNG/BSS - Non-native Grassland / Black Sage Scrub

NNG/DW - Non-native Grassland / Deerweed Series

NNG/RO - Non-native Grassland / Rock Outcrop

ORC - Orchard

OW - Coast Live Oak Woodland

RUD - Ruderal

RUD/CCH - Ruderal / Chamise Chaparral

RUD/DW - Ruderal / Deerweed Series

RUD/NNG - Ruderal / Non-native Grassland

SOC - Scrub Oak Chaparral

SOC/ORN - Scrub Oak Chaparral / Ornamental

SOC/OW - Scrub Oak Chaparral / Coast Live Oak Woodland

SWS - Southern Willow Scrub

Nilson Parcel

Orange County

Sanchez Ranch

Long Canyon Road

USFS Parcel

Riverside County

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

PCR

N

0 900 1,800 Feet

Plant Communities

The Preserve

Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

5

Photograph 1: East-facing slope in the western portion of the Sanchez parcel supporting chamise chaparral/rock outcrop and patches of coast live oak woodland. The canyon bottom supports coats live oak woodland and coast live oak forest.

Photograph 2: View of chamise chaparral within the western portion of the Sanchez parcel.

Photograph 3: View of hoaryleaf ceanothus chaparral community within the northern USFS parcel.

Photograph 4: View of buckwheat scrub, with coast live oak woodland in the background, along Long Canyon Road within the off-site portion of the study area.

PCR

Site Photographs

The Preserve

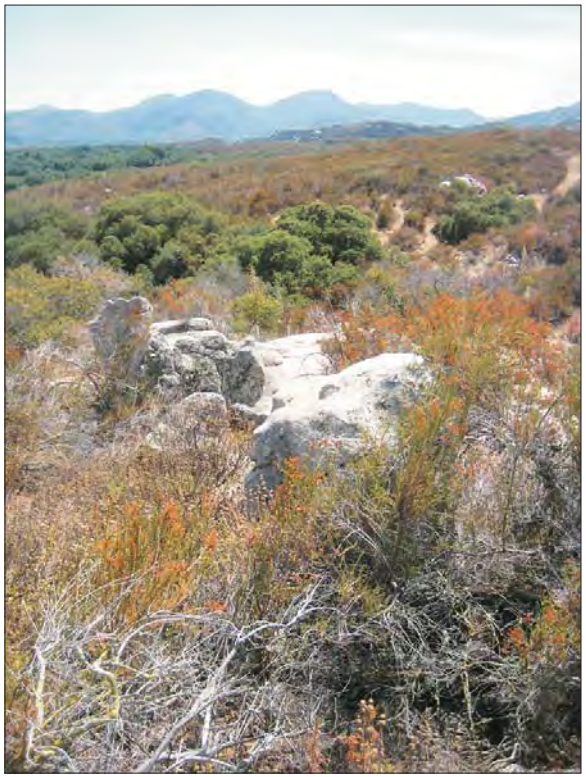
Source: PCR Services Corporation, 2013.

FIGURE

6a

Photograph 5: Coast live oak woodland within the northeastern portion of the Sanchez parcel.

Photograph 7: View of the disturbed airstrip within the Nilson parcel.



Photograph 6: View of chamise chaparral/rock outcrop community within the southern portion of the Nilson parcel, with coast live oak woodland in the background.

PCR

Site Photographs

The Preserve

Source: PCR Services Corporation, 2013.

FIGURE

6b

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subspicata), and coast live oak (*Quercus agrifolia*). A total of 13.7 acres of scrub oak chaparral occur on-site (13.6 acres in scattered patches throughout the Nilson parcel and 0.1 acre along the northern boundary of the USFS parcel). After surveys were completed, a portion of the USFS parcels (i.e., the USFS parcel north of Long Canyon Road) was burned due to prescribed fires. However, scrub oak chaparral is a community that is adapted to periodic fires and therefore is expected to regenerate naturally and re-establish to the pre-burn conditions which were previously mapped.

Scrub oak chaparral/ornamental (OCHCS 3.7/15.5) is mapped in the southwest corner of the Nilson parcel and consists of scrub oak chaparral mixed with planted ornamental species. A total of 0.1 acre of scrub oak chaparral/ornamental occurs on-site.

Scrub oak chaparral/coast live oak woodland (OCHCS 3.7/8.1) occurs in the south-central portion of the Nilson parcel and supports species typical of scrub oak chaparral and coast live oak woodland (described below). A total of 0.5 acre of scrub oak chaparral/coast live oak woodland occurs on-site.

Coast live oak woodland (OCHCS 8.1) comprises approximately 38.8 acres on-site (1.5 acres in scattered patches throughout the Nilson parcel, 32.8 acres throughout the Sanchez parcel, and 4.5 acres on the USFS parcels), and 2.1 acres off-site. Coast live oak woodland is dominated by coast live oak and is represented by an open canopy in bottomlands, a dense canopy of patchily distributed trees on hillsides, and in some cases, the canopy of a single tree. This community has been mapped within the smaller and steeper drainage features within the study area and on terraces above larger drainage features. Associated species include western sycamore (*Platanus racemosa*), horehound (*Marrubium vulgare*), holly-leaf redberry (*Rhamnus ilicifolia*), toyon, and orange-bush monkeyflower. Understory species include wild cucumber, golden yarrow (*Eriophyllum confertiflorum*), foxtail chess, phacelia (*Phacelia* spp.), mugwort (*Artemisia douglasiana*), poison oak, goose grass (*Galium aparine*), miner's lettuce (*Claytonia perfoliata*), blackberry (*Rubus ursinus*), wild grape (*Vitis girdiana*), and ripgut grass (*Bromus diandrus*). After surveys were completed, a portion of the USFS parcels (i.e., the USFS parcel north of Long Canyon Road) was burned due to prescribed fires. This community is expected to re-establish to the pre-burn conditions which were previously mapped; however, while coast live oaks are resistant to burning, some of the trees suffered fire damage and the extent of damage or how the burn may affect the survival of the coast live oak trees within this community is not known.

Coast live oak forest (OCHCS 9.1) consists of 4.4 acres in the south-central portion of the Sanchez parcel. This community consists of a denser canopy cover of coast live oak than coast live oak woodland described above. Associated species include western sycamore with a variety of understory species including those listed above under coast live oak woodland as well as heart-leaved penstemon (*Keckiella cordifolia*), coffee fern (*Pellaea andromedifolia*), skunkbush, giant wild rye (*Elymus condensatus*), California thread-stem (*Pterostegia drymarioides*), soft chess (*Bromus hordeaceus*), and horsetail (*Equisetum* sp.).

Southern willow scrub (OCHCS 7.2) occurs in three small patches in the southwestern portion of the Nilson Parcel (one patch is associated with Seasonal Pond 5). This area is approximately 0.2 acre and is dominated by willow species, including black willow (*Salix gooddingii*) and red willow (*Salix laevigata*). Other associated species included western sycamore and slender woolly buckwheat (*Eriogonum gracile*).

Mule fat scrub (OCHCS 7.3) occupies approximately 0.2 acre (0.1 acre on the southwestern panhandle of the Nilson parcel and 0.1 acre off-site). In this section the soil was moist and supported a community where

mule fat (*Baccharis salicifolia*) was the dominant shrub. The on-site community of mule fat scrub also supported occasional willows (*Salix* spp.) and an understory of herbaceous plant types including western ragweed (*Artemisia psilostachya*).

Cattail stand, which is referred to in OCHCS as freshwater seep (OCHCS 5.3), occupies a small depression kept wet by a continually dripping water spigot and occupies less than 0.1 acre (associated with Seasonal Pond 3) in the south-central portion of the Nilson parcel. Cattail (*Typha* sp.) and rush (*Juncus* sp.) are the dominant plant types here.

Non-native grassland (OCHCS 4.1) comprises approximately 0.6 acre on-site (0.4 acre in a few widely scattered patches throughout the Nilson parcel and 0.2 acre in the southeast corner of the Sanchez parcel) and 0.6 acre off-site. Non-native grassland is associated with areas that have been disturbed and is dominated by slender wild oat (*Avena barbata*), foxtail chess, and ripgut grass. Associated species include chaparral nightshade (*Solanum xanti*), blue dicks (*Dichelostemma capitatum*), and tocalote.

Non-native grassland/deerweed series (OCHCS 4.1/n/a) is dominated by non-native grasses but also has significant amounts of deerweed. This community is dominated by rattail fescue and deerweed and comprise a 0.4-acre patch on the Nilson parcel and less than 0.1 acre on the USFS parcel. Associated species include saw-tooth goldenbush, common sandaster, California buckwheat, foxtail chess, black mustard, red-stemmed filaree (*Erodium cicutarium*), and telegraph weed.

Non-native grassland/rock outcrop (4.1/10.3) is dominated by non-native grassland but supports rock outcrops and consists of approximately 0.3 acre along a drainage feature in the northwestern portion of the Nilson parcel.

Non-native grassland/black sage scrub (OCHS 4.1/2.3.4) is dominated by non-native grassland; however, black sage is a subdominant plant. This community occupies less than 0.1 acre on the Nilson parcel.

Ruderal (OCHCS n/a) areas comprise 0.5 acre on-site in the southwestern portion of the Nilson parcel. Ruderal areas have been disturbed and non-native forbs, or broad-leaved plants, are the dominant species found, rather than non-native grasses. These areas are dominated by prickly sow thistle (*Sonchus asper* ssp. *asper*) and black mustard. Associated species include scarlet pimpernel (*Anagallis arvensis*), rattail fescue, sweet clover (*Melilotus* sp.), red-stemmed filaree, white-stemmed filaree (*Erodium moschatum*), wild oat (*Avena* sp.) and bull thistle (*Cirsium vulgare*).

Ruderal/chamise chaparral (OCHCS n/a/3.3) is dominated by ruderal species but chamise is established as a sub-dominant species. This community occupied 0.2 acre in the south-central portion of the Nilson parcel.

Ruderal/deerweed series (n/a/n/a), which comprised of ruderal vegetation in which deerweed was a sub-dominant shrub, was found near the southern boundary of the Nilson parcel and occupies 1.1 acres of the study area.

Ruderal/non-native grassland (n/a/4.1) consisting of a ruderal area with a sub-dominance of non-native grasses was observed in the southern portion of the Nilson parcel and occupies approximately 0.1 acre of the study area.

Disturbed (OCHCS 16.0) areas comprise 31.5 acres on-site (17.0 acres on the Nilson parcel, 13.5 acres on the Sanchez parcel, and 1.0 acre on the USFS parcels), and 0.1 acre off-site. Disturbed areas have been mechanically disturbed, such as by the activities of heavy equipment, and either completely lack vegetation or support scattered non-native grasses and ruderal species. Disturbed areas comprise less than five percent of the study area and are limited to dirt roads, runway, and other cleared areas. Plant species found in the disturbed areas include red-stemmed filaree, white-stemmed filaree, tocalote, California filago (*Filago californica*), deerweed, black mustard, rattail fescue, slender wild oat, foxtail chess, ripgut grass, soft chess, and Mediterranean schismus (*Schismus barbatus*).

Disturbed/Non-Native Grassland (16.0/4.1) accounted for approximately 0.2 acre on-site on the west side of the Nilson parcel of the former runway where non-native grasses were the dominant pioneering plant types seen, and 0.1 acre off-site along Long Canyon Road.

Disturbed/Coast Live Oak Woodland (16.0/8.1) was found near the eastern border of the Nilson parcel within a disturbed area in which several oak trees had become established and comprised 0.1 acre.

Disturbed/Deerweed Series (16.0/n/a) is dominated by disturbance but deerweed accounted for the majority of the vegetation which had become established. An approximately 1.0-acre area (0.9 acre on-site and 0.1 acre off-site) had once been cleared near Long Canyon Road within the USFS parcel. After surveys were completed, a portion of the USFS parcels (i.e., the USFS parcel north of Long Canyon Road) was burned due to prescribed fires. However, this disturbed community is expected to re-establish to the pre-burn conditions which were previously mapped.

Orchard (OCHCS 14.3) was mapped within the southern portion of the Nilson parcel and occupies 0.7 acre.

Developed (OCHCS 15.0) areas consist of paved roads including Long Canyon Road. A total of 2.0 acres of developed area was mapped off-site.

3.3 GENERAL PLANT INVENTORY

The plant communities discussed above are comprised of numerous plant species. All plant species observed during surveys are included in Appendix A, *Floral and Faunal Compendium*. Sensitive plant species occurring or potentially occurring within the study area are discussed in Section 3.8.3, *Sensitive Plant Species*.

3.4 GENERAL WILDLIFE INVENTORY

The plant communities discussed above provide wildlife habitat. While a few wildlife species are entirely dependent on a single natural community, the entire mosaic of all the natural communities within the study area and adjoining areas constitutes a functional ecosystem for a variety of wildlife species, both within the study area and as part of the regional ecosystem. Following are discussions of wildlife populations within the study area, segregated by taxonomic group. Representative examples of each taxonomic group either

observed or expected within the study area are provided. Wildlife species observed within the study area are included in Appendix A, *Floral and Faunal Compendium*. Sensitive wildlife species occurring or potentially occurring are discussed further in Section 3.8.4, *Sensitive Wildlife Species*.

3.4.1 Invertebrates

No directed surveys for common invertebrates were conducted; however, butterfly species that were observed during all site visits were recorded in field notes. Common butterfly species observed include sara orangetip (*Anthocharis sara sara*), funereal dusky wing (*Erynnis zarucco funeralis*), fiery skipper (*Hylephila phyleus*), western tiger swallowtail (*Papilio rutulus rutulus*), orange sulphur (*Colias eurytheme*), painted lady (*Vanessa cardui*), mourning cloak (*Nymphalis antiopa*), Lorquin's admiral (*Limenitis lorquini*), Behr's metalmark (*Apodemia mormo virgulti*), and green hairstreak (*Callophrys affinis perplexa*). Sensitive invertebrate species are discussed further in Section 3.8.4, *Sensitive Wildlife Species*. All invertebrate species observed are listed in Appendix A, *Floral and Faunal Compendium*.

3.4.2 Amphibians

The potential presence of amphibians varies greatly between habitats within the study area. Terrestrial species may or may not require standing water for reproduction. Terrestrial species avoid desiccation by burrowing underground; within crevices in trees, rocks, and logs; and under stones and surface litter during the day and dry seasons. Due to their secretive nature, terrestrial amphibians are rarely observed, but may be quite abundant if conditions are favorable. Aquatic amphibians are dependent on standing or flowing water for reproduction. Such habitats include fresh water marshes and open water (reservoirs, permanent and temporary pools and ponds, and perennial streams). Many aquatic amphibians will utilize temporary pools as nesting sites. These pools are temporary in duration and form following winter and spring rains common to southern California. Amphibian species observed within the study area include the coast range newt (*Taricha torosa torosa*), western toad (*Anaxyrus boreas*), Pacific treefrog (*Pseudacris regilla*) and California treefrog (*Pseudacris cadaverina*). These species, with the exception of the coast range newt, are not considered sensitive. The coast range newt and other sensitive amphibian species are discussed in Section 3.8.4, *Sensitive Wildlife Species*. All amphibian species observed within the study area are included in Appendix A, *Floral and Faunal Compendium*.

3.4.3 Reptiles

Reptilian diversity and abundance typically varies with habitat type and character. Some species prefer only one or two natural communities; however, most will forage in a variety of communities. A number of reptile species prefer open habitats that allow free movement and high visibility. Most species occurring in open habitats rely on the presence of small mammal burrows for cover and escape from predators and extreme weather.

Reptile species observed within the study area include the western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*Sceloporus orcutti*), side-blotched lizard (*Uta stansburiana*), coast horned lizard (*Phrynosoma coronatum*), San Diego alligator lizard (*Elgaria multicarinatus webbi*), chaparral whipsnake (*Masticophis lateralis lateralis*), coastal rosy boa (*Charina trivirgata roseofusca*), and northern red-diamond rattlesnake (*Crotalus ruber ruber*). These species, with the exception of the coast horned lizard, coastal rosy boa, and northern red-diamond rattlesnake, are not considered sensitive. All reptile species observed within the study area are included in Appendix A, *Floral and Faunal Compendium*. The coast horned lizard, coastal

rosy boa, northern red-diamond rattlesnake, and other sensitive reptile species potentially occurring within the study area are discussed in more detail in Section 3.8.4, *Sensitive Wildlife Species*.

3.4.4 Avian

Representative avian species observed during the field visit include the California quail (*Callipepla californica*), mountain quail (*Oreortyx pictus*), mourning dove (***Zenaida macroura***), Anna's hummingbird (***Calypte anna***), Nuttall's woodpecker (***Picoides nuttallii***), ash-throated flycatcher (*Myiarchus cinerascens*), western scrub jay (*Aphelocoma californica*), common raven (*Corvus corax*), oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), California towhee (***Pipilo crissalis***), spotted towhee (***Pipilo*** *maculatus*), song sparrow (*Melospiza melodia*), house finch (***Carpodacus mexicanus***), and lesser goldfinch (***Carduelis psaltria***). All avian species observed within the study area are included in Appendix A, *Floral and Faunal Compendium*. Sensitive bird species occurring or potentially occurring are discussed in Section 3.8.4, *Sensitive Wildlife Species*.

Much of the habitat within the study area provides foraging opportunities for raptors, including red-tailed hawk (***Buteo jamaicensis***), turkey vulture (***Cathartes aura***), **white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and red-shouldered hawk (*Buteo lineatus*)** which were observed within the study area. The study area supports mature coast live oak woodland and forest which provide additional foraging opportunities for species such as Cooper's hawk (*Accipiter cooperii*) and sharp-shinned hawk (*Accipiter striatus*) and provides habitat for small mammals, which has the potential to result in a sizeable rodent population for raptors to prey on. Collectively, the availability of prey and perches would suggest that the study area is being used by a variety of raptor species. All raptor species observed are included in Appendix A, *Floral and Faunal Compendium*. Sensitive raptor species occurring or potentially occurring within the study area are discussed in Section 3.8.4, *Sensitive Wildlife Species*.

3.4.5 Mammals

A number of mammal species reside within the region and may utilize the study area to foraging or for cover. Mammals observed within the study area include the California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*). All mammals observed within the study area are listed in Appendix A, *Floral and Faunal Compendium*. Sensitive mammal species occurring or potentially occurring within the study area are discussed further in Section 3.8.4, *Sensitive Wildlife Species*.

3.5 WILDLIFE MOVEMENT

3.5.1 Overview

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic material (MacArthur and Wilson 1967; Soulé 1987; Harris and Gallagher 1989; Bennet 1990). Corridors effectively act as links between different populations of

a species. A group of smaller populations (termed "demes") linked together via a system of corridors is termed a "metapopulation." The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983, Fahrig and Merriam 1985, Simberloff and Cox 1987).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and, (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor," "travel route," and "wildlife crossing" to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles.

It is important to note that, within a large open space area in which there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors as defined above may not

yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (canyons, ridgelines, trails, riverbeds, and others), wildlife will use these "local" routes while searching for food, water, shelter, and mates, and will not need to cross into other large open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized mammals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles such as roads and highways, remaining landscape features or travel routes that connect the larger open space areas can "become" corridors as long as they provide adequate space, cover, food, and water, and do not contain obstacles or distractions (man-made noise, lighting) that would generally hinder wildlife movement.

3.5.2 Wildlife Movement within the Study Area

As previously described, wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Although the nature of each of these types of movement are species specific, large open spaces will generally support a diverse wildlife community representing all types of movement. Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds, on a "local" level to many square mile home ranges of large mammals moving at a "regional" level. The location of the study area supports all types of wildlife movement on some scale.

Movement on a smaller or "local" scale occurs throughout the surrounding vicinity as well as the study area. Data gathered from biological surveys indicate that the study area contains habitat that supports a variety of species of invertebrates, amphibians, reptiles, birds, and mammals. The home range and average dispersal distance of many of these species may be entirely contained within the study area and immediate vicinity. Populations of animals such as insects, amphibians, reptiles, small mammals, and a few bird species may find all their resource requirements without moving far or outside of the study area at all. Occasionally, individuals expanding their home range or dispersing from their parental range will attempt to move outside of the study area. Mammals known to occur within the study area either by direct observation or by the presence of sign include the desert cottontail, California ground squirrel, coyote, gray fox, bobcat, and mule deer.

Movement on a larger, "regional" scale is likely to occur to and from the study area due to the availability of resources within the study area and in the surrounding area. The study area is within a large open space area of the Santa Ana Mountains that includes portions of the Cleveland National Forest. The undisturbed nature of the area, the resources provided in Long Canyon Creek and Drainage B (e.g., prey, water, and vegetative cover), in addition to ridgelines and dirt roads within the study area, all facilitate wildlife movement in the form of travel routes (as defined above). The study area does not support wildlife crossings or wildlife corridors (as defined above) because the study area does not represent open space within an otherwise mostly developed area.

In addition, the *Missing Linkages: Restoring Connectivity to the California Landscape* and *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion* reports were consulted to determine if the study

area was located within a linkage as defined therein (South Coast Wildlands 2001, 2008). No linkages were identified within the Santa Ana Mountains in the vicinity of the study area. However, the study area is within the Santa Ana Mountains, which is mapped as Conservation Lands in these reports, and missing linkages are identified between the Santa Ana Mountains and other ranges that provide core habitat for wildlife.

The Riverside County portion of the study area is within the southeast portion of Core B of the MSHCP. The MSHCP defines a Core as a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more species covered in the MSHCP. Although a more typical definition is population-related and refers to a single species, in the MSHCP this term is habitat-related because of the multi-species nature of the MSHCP. Core B represents the second largest habitat block in the MSHCP. Studies of mountain lion movement within this Core indicated that this Core provides both live-in and linkage habitat for this mammal, which requires very large blocks of intact habitat. The Core then likely also provides linkage area for other mammals such as bobcat.

3.6 JURISDICTIONAL WETLANDS AND "WATERS OF THE U.S."

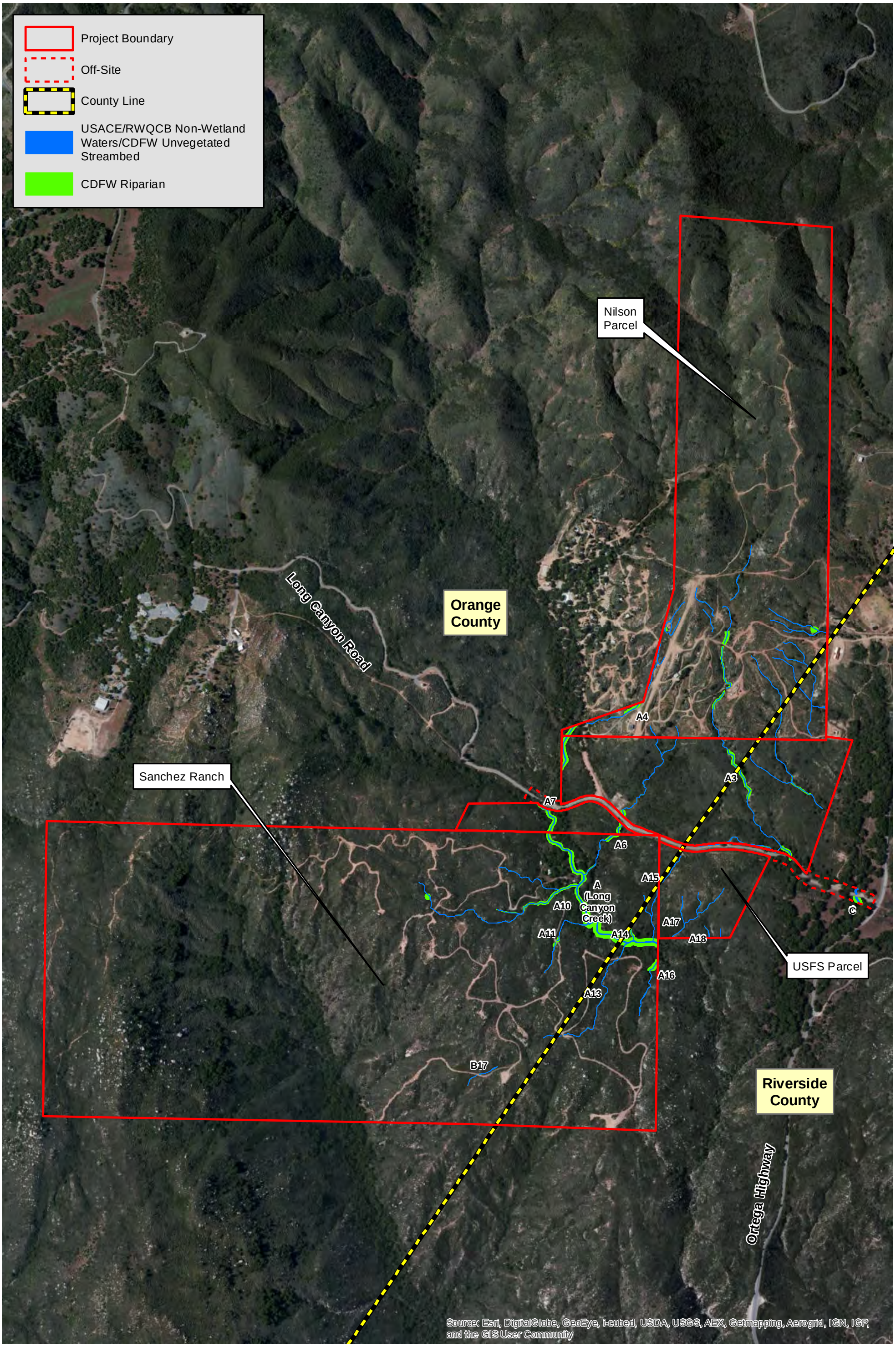
An investigation of jurisdictional wetlands and "waters of the U.S." was conducted by Glenn Lukos Associates. In 2007-2008, a jurisdictional delineation was conducted over an approximately 930.6-acre study area (GLA 2008).[8] In 2013, Glenn Lukos Associates regulatory specialists re-examined the study area and updated the jurisdictional delineation to reflect current site conditions within the updated project impact footprint only, encompassing an approximately 340-acre study area (GLA 2013).

The 340-acre study area[9] contains one main drainage complex, described herein as Drainage A (Long Canyon Creek) and its tributaries (see **Figure 7**, *Jurisdictional Features*). Drainage B occurs outside of the 340-acre study area; however, one of its tributaries, Tributary B17, occurs within the 340-acre study area. Drainage A and B are mapped as blue-line streams on the USGS topographic map Alberhill, California. A small portion of Drainage C occurs within the 340-acre study area, near the intersection of Long Canyon Road and Ortega Highway, and converges within Drainage A off-site. Both Drainages A and B converge with San Juan Creek off-site, and ultimately discharge into the Pacific Ocean.

Potential USACE jurisdiction within the 340-acre study area totals approximately 1.32 acres of "waters of the U.S." (29,626 linear feet), none of which consists of jurisdictional wetlands. None of the drainages were determined to be intrastate/isolated waters outside of USACE jurisdiction. Therefore, the boundaries of all RWQCB jurisdictional "waters of the State" are equivalent to USACE jurisdiction (1.32 acres, 29,626 linear feet). Potential CDFW jurisdiction within the 340-acre study area totals approximately 6.53 acres, of which 5.89 acres consist of vegetated riparian habitat, and includes all areas within USACE jurisdiction.

[8] *It should be noted that the jurisdictional delineation conducted in 2007-2008 was based on regulatory requirements of the time. Since then, there have been court cases and new regulations issued to provide further guidance on delineation methodology which have changed the regulatory requirements. Thus, although the 2008 Jurisdictional Delineation report provides background on the existing resources within the overall study area for the proposed project, the 2013 Jurisdictional Delineation report replaces the previous report and was used in the analysis of jurisdictional features for this Biological Resources Assessment, as it reflects current site conditions within the project impact footprint (that is contained within the 340-acre study area) and the updated field delineation was conducted in accordance with the most current regulations.*

[9] *The drainage and tributary naming system correlate with the prior jurisdictional delineation that was conducted in 2007-2008; however, the 2013 jurisdictional delineation report reflects updated site conditions within the 340-acre study area only.*



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Jurisdictional Features

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Source: GLA, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

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A summary of acreages of the drainages and tributaries within the 340-acre study area is included in **Table 2**, *Jurisdictional Features for the 340-Acre Study Area*, below. Further details on each jurisdictional feature are available in **Appendix B**, *Jurisdictional Delineation* (GLA 2013).

Table 2

Jurisdictional Features for the 340-Acre Study Area

Drainage Feature	USACE Non-Wetland Waters	USACE Wetland	Total USACE	CDFW Unvegetated Streambed	CDFW Riparian Habitat	Total CDFW	RWQCB	Linear Feet
A	0.45	0.00	0.45	0.00	3.51	3.51	0.45	2,916
A3	0.37	0.00	0.37	0.29	1.12	1.41	0.37	12,200
A4	0.06	0.00	0.06	0.05	0.13	0.18	0.06	2,191
A6	0.09	0.00	0.09	0.06	0.28	0.34	0.09	2,508
A7	0.01	0.00	0.01	0.00	0.05	0.05	0.01	121
A10	0.08	0.00	0.08	0.05	0.45	0.5	0.08	3,108
A11	0.02	0.00	0.02	0.02	0.04	0.06	0.02	834
A13	0.05	0.00	0.05	0.05	0.00	0.05	0.05	1,624
A14	0.00	0.00	0.00	0.00	0.04	0.04	0.00	121
A15	0.03	0.00	0.03	0.03	0.00	0.03	0.03	1,263
A16	0.03	0.00	0.03	0.02	0.15	0.17	0.03	654
A17	0.04	0.00	0.04	0.04	0.00	0.04	0.04	1,362
A18	0.01	0.00	0.01	0.01	0.00	0.01	0.01	236
B17	0.02	0.00	0.02	0.02	0.00	0.02	0.02	354
C	0.06	0.00	0.06	0.00	0.12	0.12	0.06	133
Total	**1.32**	**0.00**	**1.32**	**0.64**	**5.89**	**6.53**	**1.32**	**29,626**

Source: Glenn Lukos Associates, 2013.

3.7 REGULATED TREES

Dudek & Associates conducted an inventory and evaluation of native trees. Although the County of Orange does not currently enforce an oak protection/management ordinance, oaks in unincorporated portions of the county are subject to management guidelines outlined in Public Resources Code (PRC) 21083.4 (Senate Bill 1334, as adopted). In addition, oak trees within the Riverside County portion of the study area are subject to Riverside County Oak Tree Management Guidelines.

A total of approximately 3,625 trees (3,186 trees within the Orange County portion and 439 within the Riverside portion) occur within the study area, as shown in **Figure 8**, *Regulated Trees*. Within the tree

inventory study area (within Orange County), there are 847 trees (including 747 coast live oaks, 92 western sycamores, 7 arroyo willows (*Salix lasiolepis*), and 1 Coulter pine (*Pinus coulteri*)). Outside of the tree inventory study area (within Orange County), there are a calculated 2,339 trees (including 2,148 coast live oaks and 191 western sycamores) within the woodlands, which will be avoided by the proposed project. Within the Riverside County portion, there are 439 trees (including 426 coast live oaks, 10 western sycamores, and 3 arroyo willows). Detailed information of the regulated trees is available in **Appendix C**, *Tree Management and Preservation Plan* (Dudek 2013).

3.8 SENSITIVE BIOLOGICAL RESOURCES

The following discussion describes the plant and wildlife species present, or potentially present, within the study area that have been afforded special recognition by Federal, State, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by either Federal or State resource management agencies, or both, as threatened or endangered, under provisions of the Federal and State Endangered Species Acts (FESA and CESA, respectively).

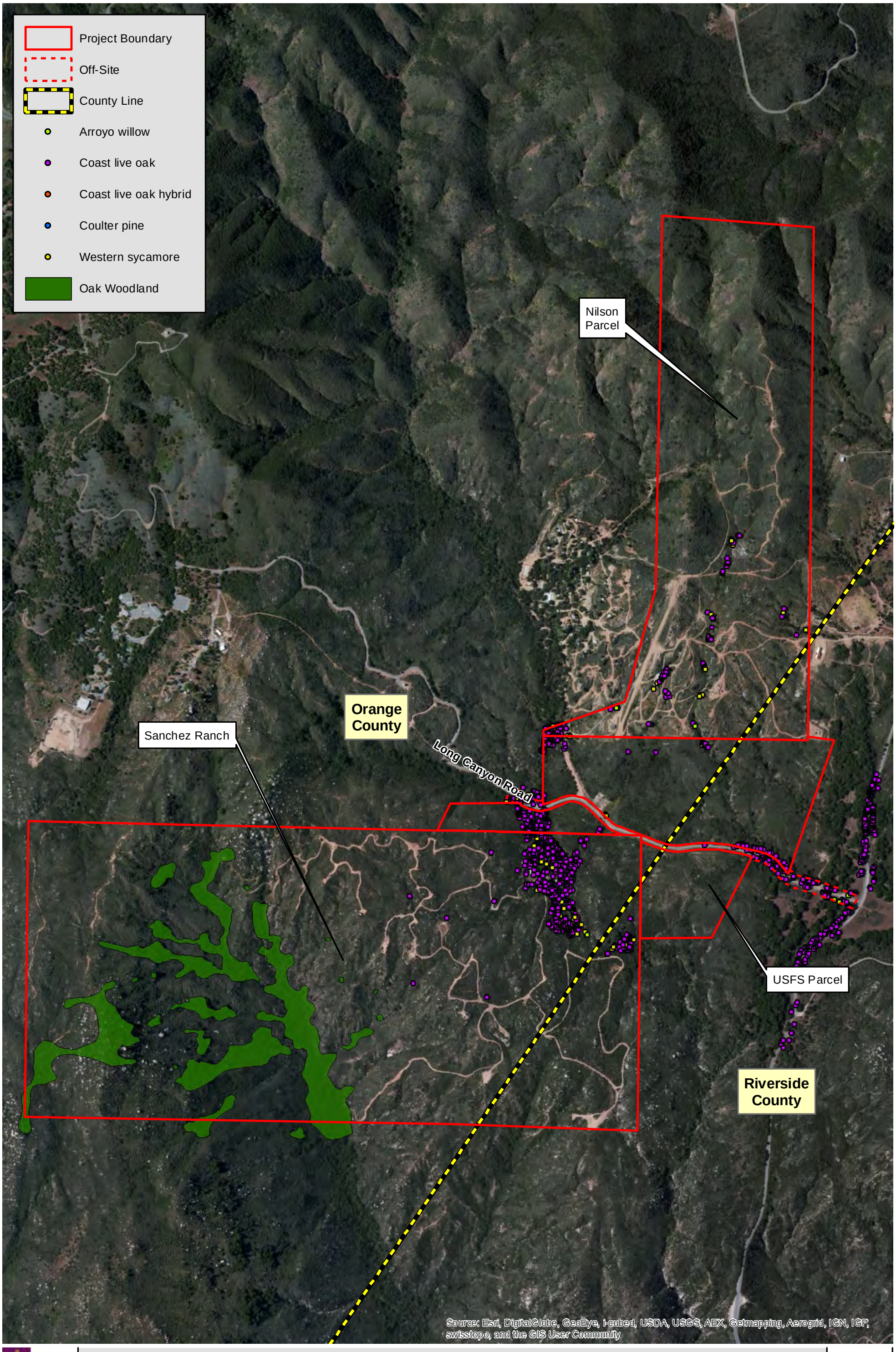
3.8.1 Sensitive Resource Classification

Federal Protection and Classifications

The FESA of 1973 defines an Endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action which could affect a federally-listed plant and animal species, the property owner and agency are required to consult with USFWS to obtain appropriate permits. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

All references to federally-protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS. For purposes of this assessment the following acronyms are used for federal status species:

- FE Federally-listed as endangered
- FT Federally-listed as threatened
- FPE Federally proposed for listing as endangered
- FPT Federally proposed for listing as threatened
- FPD Federally proposed for delisting
- FC Federal candidate species (former C1 species)



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Regulated Trees

The Preserve

Source: Dudek, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

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- State of California Protection and Classifications

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease."

The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."

Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating "no person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the State to allow "take" require permits or memoranda of understanding and can be authorized for "endangered species, threatened species, or candidate species for scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For the purposes of this assessment, the following acronyms are used for State status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State candidate for listing as Endangered
- SCT State candidate for listing as Threatened

- SFP State Fully Protected
- SSC California Species of Special Concern

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered plant species of California (CNPS 2012). The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS has developed five categories of rarity, of which Ranks 1A, 1B, and 2 are particularly considered sensitive:

- Rank 1A Presumed extinct in California
- Rank 1B Rare or Endangered in California and elsewhere
- Rank 2 Rare or Endangered in California, more common elsewhere
- Rank 3 Plants for which we need more information – Review list
- Rank 4 Plants of limited distribution – Watch list

The CNPS recently added "threat ranks" which parallel the ranks used by the CNDDB. These ranks are added as a decimal code after the CNPS Rank (e.g., Rank 1B.1). The threat codes are as follows:

- .1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- .2 – Fairly endangered in California (20-80% occurrences threatened)
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Sensitive species that occur or potentially could occur within the study area are based on one or more of the following: (1) the direct observation of the species within the study area during one of the biological surveys; (2) a record reported in the CNDDB; and (3) the study area is within known distribution of a species and contains appropriate habitat.

Western Riverside County Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan

Portions of the study area are within the Western Riverside County MSHCP/Natural Community Conservation Plan (NCCP), which was adopted by the Riverside County Board of Supervisors (June 17, 2003). The MSHCP functions as an HCP pursuant to Section 10(a)(1)(B) of the FESA and as an NCCP under the NCCP Act of 2001. The USFWS and CDFW have authorized the take of a number sensitive plant and wildlife species within the MSHCP Plan Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area. Many of the sensitive plant and wildlife species discussed herein will provide information on the status of the species within the study area.

3.8.2 Sensitive Plant Communities

Sensitive plant communities include those habitat types considered sensitive by resource agencies, namely the CDFW, due to their scarcity and/or their ability to support State and federally-listed Endangered, Threatened, and Rare vascular plants, as well as several sensitive bird and reptile species.

Three sensitive plant communities were observed within the study area, including southern willow scrub, coast live oak woodland, and coast live oak forest, as shown in **Figure 9**, *Sensitive Plant Communities and Sensitive Species Locations*.

Southern willow scrub corresponds to CNDDB code 61.211.05 (CDFW 2010). This community is considered high priority for inventory in the CNDDB. A total of 0.2 acre of southern willow scrub occur within the Nilson parcel. No other sensitive plant communities occur within the study area.

The study area also supports 40.9 acres of coast live oak woodland (1.5 acres within the Nilson parcel, 32.8 acres within the Sanchez parcel, 4.5 acres within the USFS parcel, and 2.1 acres off-site) and 4.4 acres of coast live oak forest (all within the Sanchez parcel). Whereas coast live oak woodland and coast live oak forest[10] are not considered high priority for inventory by the CNDDB, they are considered sensitive by the CDFW due to their potential to support sensitive species (CDFW 2010). In addition, oak woodlands are protected by State law (i.e., SB 1334-California Oak Woodland Law). Therefore, for the purposes of this assessment, coast live oak woodland and coast live oak forest are considered sensitive.

3.8.3 Sensitive Plant Species

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFW, and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2) and the USFS (Cleveland National Forest). Several sensitive plant species were reported in the CNDDB from the vicinity. One sensitive plant species, Coulter's matilija poppy (*Romneya coulteri*) (CNPS List 4.2), was observed on-site during surveys conducted in 2006 (see Figure 9). Approximately 16 individuals of Coulter's matilija poppy were observed in one location in the northeast corner of the Sanchez parcel; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. Several mariposa lily stems were observed on-site in 2012-2013 that were unidentifiable due to herbivory of the flowers; however, it is believed that these mariposa lilies are the common species of lilac mariposa lily (*Calochortus splendens*) or Weed's mariposa lily (*Calochortus weedii* var. *weedii*), as both of these species was observed on-site in previous years of surveys. Several additional species were not observed but have the potential to occur within the study area as discussed in **Table 3**, *Sensitive Plant Species*.

3.8.4 Sensitive Wildlife Species

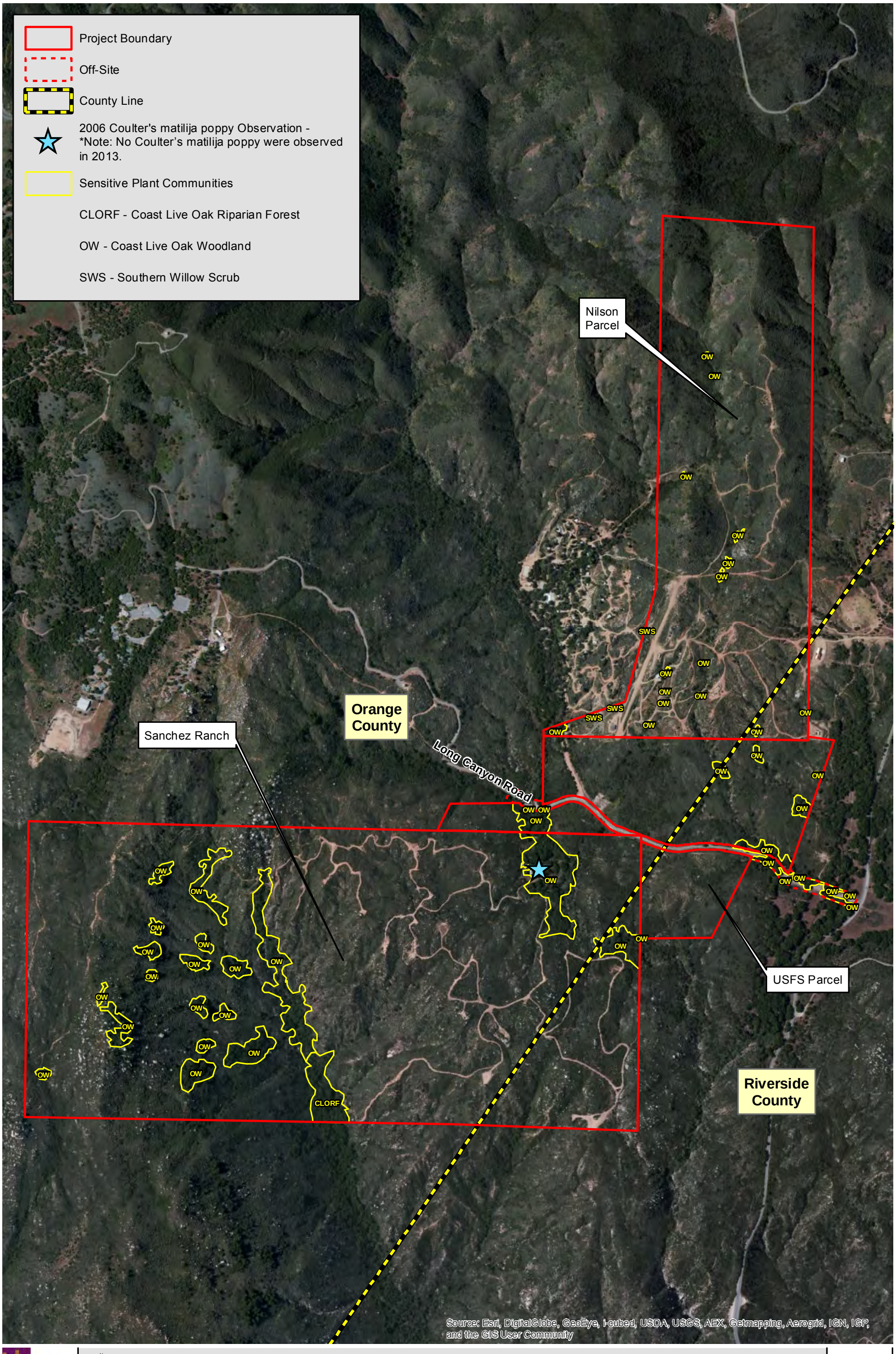
Sensitive wildlife includes those species listed as endangered or threatened under the FESA or CESA, candidates for listing by the USFWS or CDFW, species of special concern to the CDFW, and species

[10] *It should be noted that coast live oak forest was previously considered high priority for inventory by the CNDDB in the 2008 Biological Resources Assessment (i.e., referenced as Southern Coast Live Oak Riparian Forest, CNDDB classification code 71.060.20). However, under the current List of Vegetation Alliances and Associations (CDFW 2010), coast live oak forest is not classified as high priority for inventory by the CNDDB.*

considered sensitive by the USFS (Cleveland National Forest). Several sensitive wildlife species were reported in the CNDDB from the vicinity.

No Federal or State listed wildlife species were observed within the study area. No fairy shrimp were observed during focused surveys conducted in 2005-2006, or during wet season surveys conducted in 2012-2013. At the request of the USFWS, a dry season survey will be conducted in summer 2013 for Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season (as previously mentioned in Section 2.3.5).

Six sensitive wildlife species were observed including, coast range newt (SSC), coast horned lizard (SSC, USFS Sensitive), coastal rosy boa (USFS Sensitive), northern red-diamond rattlesnake (SSC), white-tailed kite (SFP), and northern harrier (SSC). These species, in addition to others with the potential to occur within the study area, are discussed in **Table 4**, *Sensitive Wildlife Species*.



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Sensitive Plant Communities and Sensitive Species Locations

The Preserve

Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

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Table 3

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
BRYOPHYTES									
Bryaceae	**Mosses Family**								
Tortula californica	California screw moss	N/A	None	None	1B.2	None	Chenopod scrub, foothill and valley grassland. Between 10 and 1460 meters.	Kern, Los Angeles, Riverside, Ventura, Santa Barbara Cos.	A
Sphaerocarpaceae	**Liverwort Family**								
Geothallus tuberosus	Campbell's liverwort	N/A	None	None	1B.1	None	Coastal scrub (mesic), vernal pools; between 10 and 600 meters.	Riverside and San Diego Cos.	A
Sphaerocarpos drewei	bottle liverwort	N/A	None	None	1B.1	None	Chaparral, coastal scrub; openings, soil. Between 90 and 600 meters.	Riverside and San Diego Cos.	P (Low)
GYMNOSPERMS									
Cupressaceae	**Cypress Family**								
Hesperocyparis forbesii	Tecate cypress	N/A	None	None	1B.1	USFS	Chaparral, closed cone coniferous forest.	Orange and San Diego Cos., Baja CA.	NE
ANGIOSPERMS (DICOTYLEDONS)									
Apiaceae	**Carrot Family**								
Eryngium aristulatum var. *parishii*	San Diego button-celery	Apr.-Jun.	FE	SE	1B.1	MSHCP	Valley grassland, coastal sage scrub, freshwater wetlands, wetland-riparian; vernal pools.	Riverside and San Diego Cos.	NE

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Asteraceae	**Sunflower Family**								
Ambrosia pumila	San Diego ambrosia	Apr.-Oct.	FE	None	1B.1	MSHCP	Chaparral, coastal scrub, desert dunes/sandy; dry, sunny grasslands on disturbed sites; scarce in low, seasonally wet areas with alkaline soils.	Riverside Co.	A
Centromadia pungens ssp. *australis*	southern tarplant	May-Nov.	None	None	1B.1	None	Margins of marshes and swamps, valley and foothill grassland (vernally mesic), vernal pools. between 0 and 425 meters.	Orange and San Diego Cos.	NE
Centromadia pungens ssp. *laevis*	smooth tarplant	Apr.-Sept.	None	None	1B.1	MSHCP	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland, disturbed places.	Riverside, San Bernardino, and San Diego Cos. Believed to be extirpated from Orange County.	NE
Lasthenia glabrata ssp*. coulteri*	Coulter's goldfields	Feb.-Jun.	None	None	1B.1	None	Salt-marsh, playas, vernal-pools, coastal; usually occurs in wetlands but occasionally in non-wetlands. 1-1220 meters.	Kern, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, Ventura Cos.	A
Pseudognaphalium leucocephalum	white rabbit-tobacco	Aug.-Nov.	None	None	2.2	None	Chaparral, cismontane woodland, coastal scrub, riparian woodland, sandy,	Orange, Riverside, Los Angeles, and San Diego Cos.	A

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
							gravelly soils.		
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	May-Sept.	None	None	2.1	*MSHCP**	Meadows and seeps, marshes and swamps, riparian scrub, vernal pools/alkaline.	Riverside County	NE
Symphyotrichum defoliatum	San Bernardino aster	Jul.-Nov.	None	None	1B.2	None	Near ditches, springs, and streams; cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic); Between 2 and 2040 meters.	Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego Cos.	A
Viguiera purisimae	La Purisima Viguiera	Apr.-Sep.	None	None	2.3	None	Coastal bluff scrub, chaparral; 365 - 425 meters.	Orange County	NE
Brassicaceae	**Mustard Family**								
Caulanthus simulans	Payson's jewel-flower	Mar.-Jun.	None	None	4.2	MSHCP USFS	Chaparral, coastal scrub, frequently in burned areas, streambeds, and rocky, steep slopes.	Riverside and San Diego Cos.	P (Low)
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Jan.-Jul.	None	None	1B.2	None	Chaparral, coastal scrub.	San Diego, Orange, SE Los Angeles, SW San Bernardino, and western Riverside Cos.	P (Low)

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Sibaropsis hammittii	Hammitt's clay-cress	Mar.-Apr.	None	None	1B.2	MSHCP USFS	Chaparral, valley and foothill grassland; clay.	Riverside and San Diego Cos.	NE
Chenopodiaceae	**Goosefoot Family**								
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	Apr.-Aug.	FE	None	1B.1	*MSHCP**	Alkaline flats, playas, valley and foothill grassland, vernal pools. Elevation 370-488 meters.	Kern and Riverside Cos.	NE
Atriplex coulteri	Coulter's saltbush	Mar.-Oct.	None	None	1B.2	None	Akaline or clay soils; coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland.	Los Angeles, Orange, Santa Barbara, San Bernardino, Ventura Cos.	NE
Crassulaceae	**Stonecrop Family**								
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya	Mar.-Jun.	FT	None	1B.2	USFS	Chaparral, coastal scrub, volcanic, rocky soils.	Orange and Los Angeles Cos.	NE
Dudleya multicaulis	many-stemmed dudleya	Apr.-Jul.	None	None	1B.2	MSHCP USFS	Coastal scrub, chaparral, valley and foothill grassland; heavy clay soils or rock outcrops; below 2,000 feet.	Los Angeles Co. to San Onofre Mt. in San Diego Co.	NE
Dudleya viscida	sticky dudleya	May-Jun.	None	None	1B.2	*MSHCP** USFS	Coastal scrub, coastal bluff scrub, chaparral; below 1,800 feet.	Orange, Riverside, and San Diego Cos.	NE

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Ericaceae	**Heath Family**								
Arctostaphylos rainbowensis	rainbow manzanita	Jan.-Feb.	None	None	1B.1	*MSHCP** USFS	Chaparral.	Riverside and San Diego Counties.	A
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	Apr.-Jun.	None	None	1B.2	None	Chaparral.	Orange, Riverside, and San Diego Cos.; Baja CA.	A
Euphorbiaceae	**Spurge Family**								
Tetracoccus dioicus	Parry's tetracoccus	Apr.-May	None	None	1B.2	USFS	Chaparral, coastal scrub.	Orange, Riverside, and San Diego Cos.; Baja CA.	A
Geraniaceae	**Geranium Family**								
Californica macrophylla	round-leaved filaree	Mar.-May	None	None	1B.1	MSHCP	Cismontane woodland, valley and foothill grassland, clay soils.	Los Angeles, Riverside, and San Diego Cos.	NE
Hydrophyllaceae	**Waterleaf Family**								
Nama stenocarpum	mud nama	Jan.-Jul.	None	None	2.2	*MSHCP*	Marches and swamps (lake margins, riverbanks). 5-500 meters.	Los Angeles, Orange Riverside, and San Diego Cos.	NE
Phacelia keckii	Santiago Peak phacelia	May-Jun.	None	None	1B.3	USFS	Chaparral, closed-cone coniferous forests.	Orange and Riverside Cos.	P (Low)
Lamiaceae	**Mint Family**								
Lepechinia cardiophylla	heart-leaved pitcher sage	Apr.-Jul.	None	None	1B.2	MSHCP USFS	Open areas (esp. slopes) in chaparral, sage scrub, valley and foothill grasslands; vernal pools, topographic depressions; heavy clay	Orange, Riverside, and San Diego Cos., Baja CA.	P (Low)

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
							soils; 2,000 - 4,200 ft.		
Monardella hypoleuca ssp. *intermedia*	intermediate monardella	Apr.-Sept.	None	None	1B.3	None	Chaparral, cismontane woodland, lower montane, coniferous forest (sometimes). 400-1250 meters	Orange, Riverside, and San Diego Cos.	P (Low)
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	Jun.-Aug.	None	None	1B.2	USFS	Chaparral, cismontane woodland.	Orange and San Diego Cos.; Baja CA.	P (Low)
Monardella macrantha ssp. *hallii*	Hall's monardella	Jun.-Aug.	None	None	1B.3	MSHCP USFS	Lower montane coniferous forest, valley and foothill grassland, broadleaf upland forest, chaparral, cismontane woodland. Typically occurs at elevations between 1,800 and 6,200 ft.	Orange, Riverside, San Bernardino, and San Diego Cos.	P (Low)
Clinopodium chandleri	San Miguel savory	Mar.-Jul.	None	None	1B.2	MSHCP USFS	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic, or metavolcanic.	Orange, Riverside, and San Diego Cos.; Baja CA.	P (Low)
Scutellaria bolanderi ssp. austromontana	southern skullcap	Jun.-Aug.	None	None	1B.2	USFS	Chaparral, cismontane woodland, lower montane coniferous forest, mesic areas.	San Diego, Riverside Cos, possible San Bernardino and Los Angeles Cos.	A

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Malvaceae	**Mallow Family**								
Ayenia compacta	California ayenia	Mar.-Apr.	None	None	2.3	None	Creosote bush scrub, washes.	CA, AZ, Baja, Sonora.	NE
Sidalcea neomexicana	Salt Spring checkerbloom	Mar.-Jun.	None	None	2.2	None	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas; alkaline and mesic soils.	CA, AZ	NE
Nyctaginaceae	**Four O'Clock Family**								
Abronia villosa var. *aurita*	chaparral sand-verbena	Jan.-Aug	None	None	1B.1	None	Coastal scrub and chaparral habitats.	Riverside and San Diego Counties. Believed to be extirpated from Orange County	NE
Papaveraceae	**Poppy Family**								
Romneya coulteri	Coulter's matilija poppy	Mar-July	None	None	4.2	*MSHCP**	Dry washes and canyons in sage scrub and chaparral; below 4,000 ft.	Santa Ana Mtns. to San Diego Co.	OB
Comments: Approximately 16 individuals of Coulter's matilija poppy were observed in one location in the northeast corner of the Sanchez parcel in 2006; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013.									
Polemoniaceae	**Phlox Family**								
Navarretia fossalis	spreading navarretia	Apr.-Jun.	FT	None	1B.1	MSHCP	Chenopod scrub, marshes and swamps, playas, vernal pools.	Los Angeles, Riverside, and San Diego Cos.; Baja CA.	A

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Navarretia prostrata	prostrate vernal pool navarretia	Apr.-Jul.	None	None	1B.1	*MSHCP**	Coastal sage scrub, wetland-riparian; occurs almost always under natural conditions in wetlands. 15-1210 meters.	Los Angeles, Orange, Riverside, San Bernardino,and San Diego Cos.	NE
Polygalaceae	**Milkwort Family**								
Polygala cornuta var. *fishiae*	Fish's milkwort	May-Aug.	None	None	4.3	*MSHCP**	Chaparral, cismontane woodland, riparian woodland.	Los Angeles, Orange, Riverside, Santa Barbara, San Diego, and Ventura counties, Baja CA.	P (Low)
Polygonaceae	**Buckwheat Family**								
Chorizanthe parryi var. *parryi*	Parry's spineflower	Apr.-Jun.	None	None	3.2	MSHCP	Coastal scrub, chaparral.	Riverside and San Bernardino Cos.	NE
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	Apr.-July	None	None	1B.2	MSHCP USFS	Variety of so. Cal. plant communities, including sage scrub; gabbroic clay soils; below 4,500 feet.	Riverside and San Diego Cos., Baja CA.	NE
Dodecahema leptoceras	slender-horned spineflower	Apr.-Jun.	FE	SE	1B.1	MSHCP	Chaparral, coastal scrub (alluvial fan sage scrub).	Los Angeles, Riverside, and San Bernardino Cos.	NE

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Rosaceae	**Rose Family**								
Horkelia cuneata ssp. *puberula*	mesa horkelia	Feb.-Sep.	None	None	1B.1	None	Chaparral, cismontane woodland, coast scrub: sandy or gravelly.	Los Angeles and Orange counties. May be extirpated from Riverside and San Diego counties.	P (Low)
Comments: With the exception of a 1983 occurrence of mesa horkelia, which has a 1 mile radius around a point location off-site, there are no CNDDB or CNPS records of any of these species occurring within the study area. The CNDDB data for this occurrence states that the exact location is unknown, but was found within Lion Canyon near the Chiquito Basin Trail, 2.0 miles south-southeast of Los Pinos Peak.									
ANGIOSPERMS (MONOCOTYLEDONS)									
Juncaceae	**Juncus Family**								
Juncus luciensis	Santa Lucia dwarf rush	Apr.-Jul.	None	None	1B.2	None	Wetland-riparian.	Riverside, Santa Barbara, San Diego Cos	A
Liliaceae	**Lily Family**								
Allium munzii	Munz's onion	Mar.-May	FE	ST	1B.1	MSHCP	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland/mesic, clay.	Riverside County	A
Brodiaea filifolia	thread-leaved brodiaea	Mar.-June	FT	SE	1B.1	None	Sage scrub, valley and foothill grassland, cismontane woodland; vernal pools (clay soils).	Los Angeles, Orange, Riverside, San Bernardino, San Diego Cos.	NE
Brodiaea orcuttii	Orcutt's brodiaea	May-Jul.	None	None	1B.1	MSHCP USFS	Mesic, clay habitats; sometimes serpentine; usually in vernal pools and small drainages.	Riverside and San Diego Cos; Baja California	NE

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Calochortus weedii var. *intermedius*	foothill mariposa lily	May-Jul.	None	None	1B.2	MSHCP USFS	Chaparral, coastal scrub, valley and foothill grasslands below 2,000 ft.	Los Angeles, Orange, and Riverside Cos.	A
Lilium humboldtii ssp. ocellatum	ocellated Humboldt lily	Mar.-Jul.	None	None	4.2	*MSHCP** USFS	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, openings.	Los Angeles, San Bernardino, Riverside, Orange, and San Diego Cos.	P (Low)
Lilium parryi	lemon lily	Jul.-Aug.	None	None	1B.2	MSHCP	Red fir forest, yellow pine forest, wetland-riparian; riparian meadows; usually occurs in wetlands, but occasionally found in non-wetlands.	Los Angeles, Riverside, San Bernardino, andSan Diego Cos.	NE
Nolina cismontana	chaparral nolina	May-Jul.	None	None	1B.2	USFS	Chaparral, coastal sage scrub, sandstone or gabbro.	Ventura, Orange, and San Diego Cos.	A
Limnanthaceae	**Meadowfoam Family**								
Limnanthes alba ssp*. parishii*	Parish's meadowfoam	Apr.-Jun.	None	SE	1B.2	MSHCP	Yellow pine forests, freshwater wetlands, wetland-riparian; meadows, vernal pools.	Riverside, San Diego Cos.	NE
Poaceae	**Grass Family**								
Imperata brevifolia	California satintail	Sept.-May	None	None	2.1	None	Chaparral, coastal sage scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub/mesic.	CA, AZ; Baja CA.	A

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
							0-1215 meters.		
Orcuttia californica	California Orcutt grass	Apr.-Aug.	FE	SE	1B.1	MSHCP	Vernal pools.	Los Angeles, Riverside, San Diego Cos.; Baja CA.	A

Key to Species Listing Status Codes

Federal and State

FE Federally Listed as Endangered
FT Federally Listed as Threatened
FPE Federally Proposed as Endangered
FPT Federally Proposed as Threatened
FPD Federally Proposed for Delisting
FC Federal Candidate Species
SE State Listed as Endangered
ST State Listed as Threatened
SCE State Candidate for Endangered
SCT State Candidate for Threatened
SR State Rare
SFP State Fully Protected
SSC California Special Concern Species

California Native Plant Society (CNPS)

List 1A: Presumed extinct in California.
List 1B: Rare, threatened, or endangered throughout their range.
List 2: Rare, threatened, or endangered in California, but more common in other states.
List 3: Plant species for which additional information is needed before rarity can be determined.
List 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

CNPS Threat Code extensions

.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat).
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

MSHCP Covered Species
*MSHCP** Species with additional requirements before they can be considered adequately conserved

Table 3 (Continued)

Sensitive Plant Species

VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**

United States Department of Agriculture, Forest Service (USFS)
USFS Sensitive

Occurrence On-site
OB Species observed within the study area.
P (Low) Although this species was not observed during focused surveys, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint which were inaccessible due to dense, impassible vegetation and steep terrain. The potential is only considered low since little to no understory is expected in the inaccessible areas based on dense canopies of chamise chaparral. In addition, those areas were studied using binoculars and no edges or open areas were observed.
A Species absent from the study area due to the negative results of focused surveys.
NE Species not expected to occur within the study area due to the lack of suitable habitat or location outside the species range.

Source: PCR Services Corporation, 2013.

Table 4

Sensitive Wildlife Species

INVERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
CRUSTACEA	**CRUSTACEANS**						
Anostraca	**Fairy Shrimp**						
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	None	None	Vernal pools in areas of shallow depressions that have a clay hardpan soil layer that inhibits percolation.	Known populations in Santa Barbara and San Diego Cos. and nw Baja CA.	A
Comments: Focused fairy shrimp surveys were conducted within seasonal ponds on the Nilson parcel as described in Section 2.3.5. No fairy shrimp were detected during the wet and dry season focused surveys conducted in 2005-2006, or wet season surveys conducted in 2012-2013 for Seasonal Ponds 2 and 3. At the request of the USFWS, a dry season survey will be conducted in summer 2013 for Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season.							
Streptocephalus woottoni	Riverside fairy shrimp	FE	None	MSHCP	Vernal pools/swales; apparently prefers deeper pools through the warm weather of late Apr. and May.	Riverside, Orange and San Diego Cos. and n Baja CA.	A
Comments: Focused fairy shrimp surveys were conducted within seasonal ponds on the Nilson parcel as described in Section 2.3.5. No fairy shrimp were detected during the wet and dry season focused surveys conducted in 2005-2006, or wet season surveys conducted in 2012-2013 for Seasonal Ponds 2 and 3. At the request of the USFWS, a dry season survey will be conducted in summer 2013 for Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season.							
INSECTA	**GRASSHOPPERS, KATYDIDS, CRICKETS, BEETLES, FLIES, BUTTERFLIES, MOTHS**						
Lepidoptera	**Butterflies and Moths**						
Euphydryas editha quino	quino checkerspot butterfly	FE	None	MSHCP	Grassland and open areas in sage scrub, chaparral, and sparse native woodlands. Low levels of invasive, nonnative vegetation and soil with a cryptogamic crust. Associated with host plant species dwarf plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*).	Orange, San Diego and w Riverside Cos. extending south into n Baja CA.	NE
Comments: Focused surveys were not conducted for the quino checkerspot butterfly. The study area is not within the USFWS recommended survey area.							

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
FISHES							
Salmonidae	**Salmon and Trout Family**						
Oncorhynchus mykiss irideus	Steelhead-southern California Evolutionary Significant Unit (ESU)	FE	SSC	None	Cool, clear, well-oxygenated streams with coastal mouths.	Santa Maria River south to the Pauma watershed.	NE
Cyprinidae	**Minnows and Carp**						
Gila orcuttii	arroyo chub	None	SSC	MSHCP USFS	South coastal screams. Slow water with mud or sandy bottoms.	Los Angeles basin.	NE
Comments: The arroyo chub occurs downstream within San Juan Creek but is not expected to occur on-site due to the lack of a perennial water source.							
Rhinichthys osculus ssp. *3*	Santa Ana speckled dace	None	SSC	None	Permanent flowing streams with summer water temperatures of 17-20 C. Typically, these streams are maintained by outflows of cool springs. The dace inhabits shallow cobble and gravel riffles.	The headwaters of the Los Angeles, Santa Ana and San Gabriel rivers.	NE
Gasterosteidae	**Sticklebacks**						
Gasterosteus aculeatus microcephalus	partially armored (resident) threespine stickleback	None	None	USFS	Slow-moving reaches of perennial freshwater streams with some aquatic vegetation.	Upper Santa Margarita River, De Luz Creek, Trabuco Creek, San Juan Creek, Malibu Creek, Big Tujunga Canyon, Sepulveda Flood Control Basin, Los Angeles River drainage, upper San Gabriel River; and middle Santa Ana River tributaries.	NE

Table 4 (Continued)

Sensitive Wildlife Species

Scientific Name	Common Name	Federal	State	Other	Preferred Habitat	Distribution	Occurrence On-site
VERTEBRATES							
Comments: The partially armored (resident) threespine stickleback occurs downstream within San Juan Creek but is not expected to occur on-site due to the lack of a perennial water source.							
AMPHIBIANS							
Salamandridae	**Newts**						
Taricha torosa torosa	coast range newt	None	SSC	MSHCP	Lives in terrestrial habitats and migrates to breed in ponds, reservoirs, and slow-moving streams.	Mendocino Co. to San Diego Co.	OB
Comments: One adult coast range newt was observed within the coast live oak forest in the south-central portion of the Sanchez parcel. Additionally, several juvenile coast range newts were observed within the main drainage feature in the USFS parcel.							
Pelobatidae	**Spadefoot Toads**						
Spea hammondii	western spadefoot	None	SSC	MSHCP	Prefer burrow sites within relatively open areas in lowland grasslands, chaparral, and pine-oak woodlands, areas of sandy or gravelly soil in alluvial fans, washes, and floodplains. Requires temporary pools for reproduction.	Coastal ranges from Point Conception, Santa Barbara Co., south to the Mexican border throughout Central Valley and adjacent foothills.	A**
Comments: **There is low potential for western spadefoot to occur within the seasonal ponds on-site. Focused surveys were conducted for fairy shrimp. No western spadefoot were observed during fairy shrimp surveys.							

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Bufonidae	**True Toads**						
Anaxyrus californicus	arroyo toad	FE	SSC	MSHCP	Washes and streams with sandy banks, willows, cottonwoods, or sycamores; riparian habitats of semiarid areas, small cobbly streambeds. Requires clear, standing water for reproduction.	Southern part of the Coast Range from n San Luis Obispo Co. south to Baja CA.	NE
Comments: The arroyo toad is not expected within the study area due to the lack of suitable habitat. This species is known to occur downstream of the study area in San Juan Creek. The nearest known location recorded in the CNDDB is less than two miles downstream near the Lower San Juan Campground. However, although the study area supports streambed habitat, it is dominated by oak woodland and does not support sandy banks or sufficient standing water for reproduction.							
Ranidae	**True Frogs**						
Rana aurora draytonii	California red-legged frog	FT	SSC	MSHCP	Variety of habitat types; aquatic, riparian, and upland. Requires a perennial water source free of exotic predators.	West of the Sierra-Cascade crest and along the Coast Ranges the entire length of the State.	NE
Comments: The California red-legged frog is not expected to occur due to the lack of suitable habitat (i.e., a perennial water source).							
REPTILES							
Emydidae	**Box and Water Turtles**						
Emys marmorata	western pond turtle	None	SSC	MSHCP USFS	Ponds, marshes, rivers, streams, irrigation ditches.	San Francisco Bay south to Baja California and west of the Sierra-Cascade crest.	NE

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Phryonosomatidae	**Iguanid Lizards**						
Phrynosoma blainvillii	coast horned lizard	None	SSC	MSHCP USFS	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 ft., open country, especially sandy areas, washes, flood plains, and windblown deposits.	Coastal ranges and foothills of Sierra Nevada from San Francisco Bay Area and northern Central Valley south to San Diego and Baja CA.	OB
Comments: The coast horned lizard was observed on-site within the eastern portion of the Nilson parcel and along a dirt road on the Sanchez parcel.							
Teiidae	**Whiptails and Relatives**						
Aspidoscelis hyperythrus	orange-throated whiptail	None	SSC	MSHCP	Gently sloping hillsides, ridges, and valleys supporting open coastal sage scrub, open chaparral, or sparse grasslands.	Extreme s Los Angeles Co., sw San Bernardino Co., Orange, Riverside, and San Diego Cos. west of the crest of the peninsular Ranges, and Baja CA.	P (Low)
Boidae	**Boas**						
Charina trivirgata	rosy boa	None	None	USFS	Desert and rocky areas in chaparral covered hillsides and canyons.	Throughout So. CA, south of Los Angeles Co. in coastal ranges to n Baja CA.	OB
Comments: The coastal rosy boa was observed in the spring of 2006 in the southeast portion of the Nilson parcel.							
Colubridae	**Colubrid Snakes**						
Diadophis punctatus modestus	San Bernardino ringneck snake	None	None	USFS	Open, relatively rocky areas within valley-foothill, mixed chaparral, and annual grass habitats.	San Bernardino, Riverside and Orange Cos.	P (Moderate)

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Lampropeltis zonata pulchra	San Diego mountain kingsnake	None	SSC	MSHCP USFS	Moist woods, coniferous forests, woodland and chaparral.	Peninsular Ranges of So. CA.	P (Moderate)
Salvadora hexalepis virgultea	coast patch-nosed snake	None	SSC	None	Coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Point Conception south through Baja CA.	P (Low)
Thamnophis hammondii	two-striped garter snake	None	SSC	USFS	Riparian and freshwater marshes with perennial water.	Ranges throughout much of CA and is absent only from the desert areas of s CA, the s San Joaquin Valley, and nw CA.	NE
Viperidae	**Vipers**						
Crotalus ruber ruber	northern red-diamond rattlesnake	None	SSC	MSHCP	Chaparral, woodland, and arid desert habitats in rocky areas with dense vegetation.	San Bernardino Co. to tip of Baja CA.	OB
Comments: The northern red-diamond rattlesnake was observed in the southwest portion of the Nilson parcel.							
BIRDS							
Accipitridae	**Hawks, Kites, Harriers, and Eagles**						
Elanus leucurus	white-tailed kite	None	SFP	MSHCP	Grasslands with scattered trees, near marshes, along highways.	Length of State; breeding in lowlands from Sacramento to San Diego Cos.	OB,F
Comments: The white-tailed kite was observed within the study area.							
Circus cyaneus	northern harrier	None	SSC	MSHCP	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Alaska, Canada, to So. U.S.	OB,F

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Comments: The northern harrier was observed within the study area.							
Aquila chrysaetos	golden eagle	None	SFP	MSHCP	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats. Nesting sites are usually located in secluded cliffs with overhanging ledges or in large trees.	Throughout CA with the exception of the center of the central valley.	P,F
Comments: Although there are rock outcrops and oak woodland on the ridgeline to the west of Drainage B, there are no known occurrences within this area (Bloom 2013, CDFW 2013, USFWS 2013). Furthermore, there are no known current or historic CNDDB or USFWS occurrences within 5 miles of the study area. The nearest CNDDB occurrence is located 5.1 miles west-southwest of the southernwesternmost corner of the Sanchez parcel, just east of Coto de Caza. Although this species is not expected to breed on-site, there is potential for golden eagle to utilize portions of the study area supporting grasslands and open scrublands for foraging.							
Haliaeetus leucocephalus	bald eagle	Delisted	SFP	MSHCP	Requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches	Throughout CA.	NE
Strigidae	**Owls**						
Asio otus	long-eared owl	None	SSC	None	Dense riparian areas, thickets, woodlands, and forest.	Local resident throughout CA. Some seasonal movement away from nesting areas.	P (Low),F
Comments: Although there is very low potential for this species to occur within the study area, this is limited to potential habitat within the coast live oak woodland and forest located in the Sanchez parcel, which will be avoided by the proposed project.							

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Athene cunicularia	burrowing owl	None	SSC	None	Dry grasslands, desert habitats, and open pinyon-juniper and ponderosa pine woodlands below 5,300 feet elevation. Prefers berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Year-round resident of lowlands of s CA.	NE
Cuculidae	**Cuckoos, Roadrunners, and Anis**						
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC	SE	MSHCP	Riparian thickets and forests dominated by willows abutting slow-moving watercourses, backwaters, or seeps.	Rare summer visitant to riparian woodlands throughout CA.	NE
Charadiidae	**Plovers**						
Charadrius alexandrinus nivosus	western snowy plover	FT	SSC	None	Barren to sparsely vegetated sand beaches, dry salt flats in lagoons , dredge spoils deposited on beach or dune habitat , levees and flats at salt-evaporation ponds, and river bars.	Coastal ranges from Monterey Co. to NW Baja CA.	NE
Tyrannidae	**Tyrant Flycatchers**						
Empidonax traillii extimus	southwestern willow flycatcher	FE	SE	MSHCP	Low brushy vegetation in wet areas, especially riparian willow thickets and woodlands in s CA.	S. CA from the Santa Ynez River south.	NE

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Laniidae	**Shrikes**						
Lanius ludovicianus	loggerhead shrike	None	SSC	MSHCP	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Formerly a common resident throughout most of CA, becoming increasingly scarce in many areas in recent years.	P (Low)
Vireonidae	**Vireos**						
Vireo bellii pusillus	least Bell's vireo	FE	SE	MSHCP	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation; nests primarily in willows and forages in the riparian and occasionally in adjoining upland habitats. Associated with willow, cottonwood, and mule fat.	A patchily distributed summer resident across s CA.	NE
Parulidae	**Wood-Warblers**						
Icteria virens	yellow-breasted chat	None	SSC	MSHCP	Riparian woodlands with a thick understory.	Uncommon summer resident and migrant in coastal CA and in foothills of the Sierra Nevada.	NE
Troglodytidae	**Wrens**						
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	None	SSC	MSHCP USFS	Coastal sage scrub, vegetation with thickets of prickly pear or cholla cactus.	So. Orange County south to nw Baja CA.	NE

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Sylviidae	**Gnatcatchers**						
Polioptila californica californica	coastal California gnatcatcher	FT	SSC	MSHCP	Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet elevation along the coastal slope; generally avoids steep slopes and dense vegetation for nesting.	S Ventura Co., southward through Los Angeles, Orange, Riverside, San Bernardino Cos., and south through the coastal foothills of San Diego Co.	NE
Icteridae	**Blackbirds**						
Agelaius tricolor	tri-colored blackbird	None	SSC	MSHCP	Freshwater marshes and riparian scrub with open water.	Central Valley and in coastal areas from Sonoma Co. south.	NE
MAMMALS							
Vespertilionidae	**Mouse-eared Bats**						
Antrozous pallidus	pallid bat	None	SSC	USFS	Nests in dry, rocky habitats/caves, crevices in rocks, arid habitats including deserts, chaparral, and scrublands. Common in low elevations.	Common in low elevations throughout CA except for the high Sierra Nevada from Shasta to Kern Co. and the nw corner of the State.	NE
Lasiurus blossevillii	western red bat	None	SSC	USFS	Riparian and woodland habitats and urban areas.	Scattered throughout much of California at lower elevations.	P, B
Comments: There is potential roosting habitat within the coast live oak woodland and forest within the Sanchez parcel, which will be avoided by the proposed project.							
Lasiurus xanthinus	western yellow bat	None	SSC	None	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitat; below 600 m.	Los Angeles and San Bernardino Cos. south to the Mexican border	NE

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Molossidae	**Free-tailed bats**						
Eumops perotis californicus	western mastiff bat	None	SSC	None	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban.	Uncommon resident of lower elevations in se San Joaquin Valley and Coastal Ranges from Monterey Co. southward through s CA from the coast eastward to the Colorado desert.	P, B
Comments: There is potential roosting habitat within the rock outcrop areas within the Sanchez parcel, which will be avoided by the proposed project.							
Nyctinomops fermorosaccus	pocketed free-tailed bat	None	SSC	None	Arid lowland areas and desert canyons; mixed conifer forest.	Coastal areas of Southern California, primarily San Diego County.	NE
Mustelidae	**Weasels**						
Taxidea taxus	American badger	None	SSC	None	Open shrub, forest, and herbaceous habitats, with friable soils.	Common in most of the state except for the northern North Coast area.	NE
Leporidae	**Rabbits and Hares**						
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	SSC	MSHCP	Open brushlands and scrub habitats between sea level and 4,000 feet elevation.	Coastal s CA from Ventura Co. into n Baja CA.	NE

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Heteromyidae	**Kangaroo rats, pocket mice, and kangaroo mice**						
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	SSC	MSHCP	Sandy herbaceous areas, usually in association with rocks or coarse gravel, sagebrush, scrub, annual grassland, chaparral and desert scrubs.	Common resident in sw CA; arid coastal areas of Orange, San Bernardino, and Riverside Cos. extending south into Baja CA.	P (Moderate)
Dipodomys stephensi	Stephens' kangaroo rat	FE	ST	MSHCP	Coastal scrub; valley and foothill grassland.	Common resident in sw CA.	NE
Cricetidae	**Mice, rats, and voles**						
Neotoma lepida intermedia	San Diego desert woodrat	None	SSC	MSHCP	Chaparral, coastal sage scrub, and pinyon – juniper woodland.	S CA.	P (Low)

Key to Species Listing Status Codes

Federal and State

FE	Federally Listed as Endangered	ST	State Listed as Threatened
FT	Federally Listed as Threatened	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SR	State Rare
FPD	Federally Proposed for Delisting	SFP	State Fully Protected
FC	Federal Candidate Species	SSC	California Special Concern Species
SE	State Listed as Endangered		

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

MSHCP Covered Species
*MSHCP** Species with additional requirements before they can be considered adequately conserved

United States Department of Agriculture, Forest Service (USFS)

USFS Sensitive

Occurrence On-site

OB Species observed within the study area.

Table 4 (Continued)

Sensitive Wildlife Species

VERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**

P Species has the potential to occur within the study area.
F For raptor and bat species: if present, would utilize the study area for foraging only.
N For raptor and bat species: if present, would utilize the study area for nesting only.
B For raptor and bat species: if present, would utilize the study area for both foraging and nesting.
A Species absent from the study area due to the negative results of focused surveys.
NE Species not expected to occur within the study area due to the lack of suitable habitat.

Source: PCR Services Corporation, 2013.

3.9 STUDY AREA RELATIONSHIP TO THE WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)

This section provides a discussion of the study area's relationship to the MSHCP policies. Approximately 109.6 acres of the study area are within Riverside County and within the MSHCP Plan Area (104.9 acres on-site and 4.7 acres off-site) (**Figure 10**, *Location within the MSHCP Elsinore Area Plan*). The 104.9 acres on-site include 7.7 acres within the Nilson parcel, 48.0 acres within the Sanchez parcel, and 49.2 acres within the USFS parcels as summarized by plant community in **Table 5**, *Riverside County Plant Communities*. Discussions of the study area within this section refer only to the 109.6 acres of the study area that are within Riverside County and subject to the MSHCP.

Table 5

Riverside County Plant Communities

Plant Community	Nilson Parcel	Sanchez Parcel	USFS Parcel	Off-site	Total
Buckwheat Scrub	-	-	-	0.1	0.1
Chamise Chaparral	6.6	34.4	46.5	0.9	88.4
Chamise Chaparral/Rock Outcrop	0.4	4.7	-	-	5.1
Hoaryleaf Ceanothus Chaparral	-	4.1	0.1	-	4.2
Coast Live Oak Woodland	0.2	2.3	2.5	2.0	7.0
Non-Native Grassland	<0.1	0.2	-	0.6	0.8
Disturbed	0.5	2.3	0.1	<0.1	2.9
Disturbed/Non-Native Grassland	-	-	-	0.1	0.1
Developed	-	-	-	1.0	1.0
TOTAL	**7.7**	**48.0**	**49.2**	**4.7**	**109.6**

Source: PCR Services Corporation, 2013.

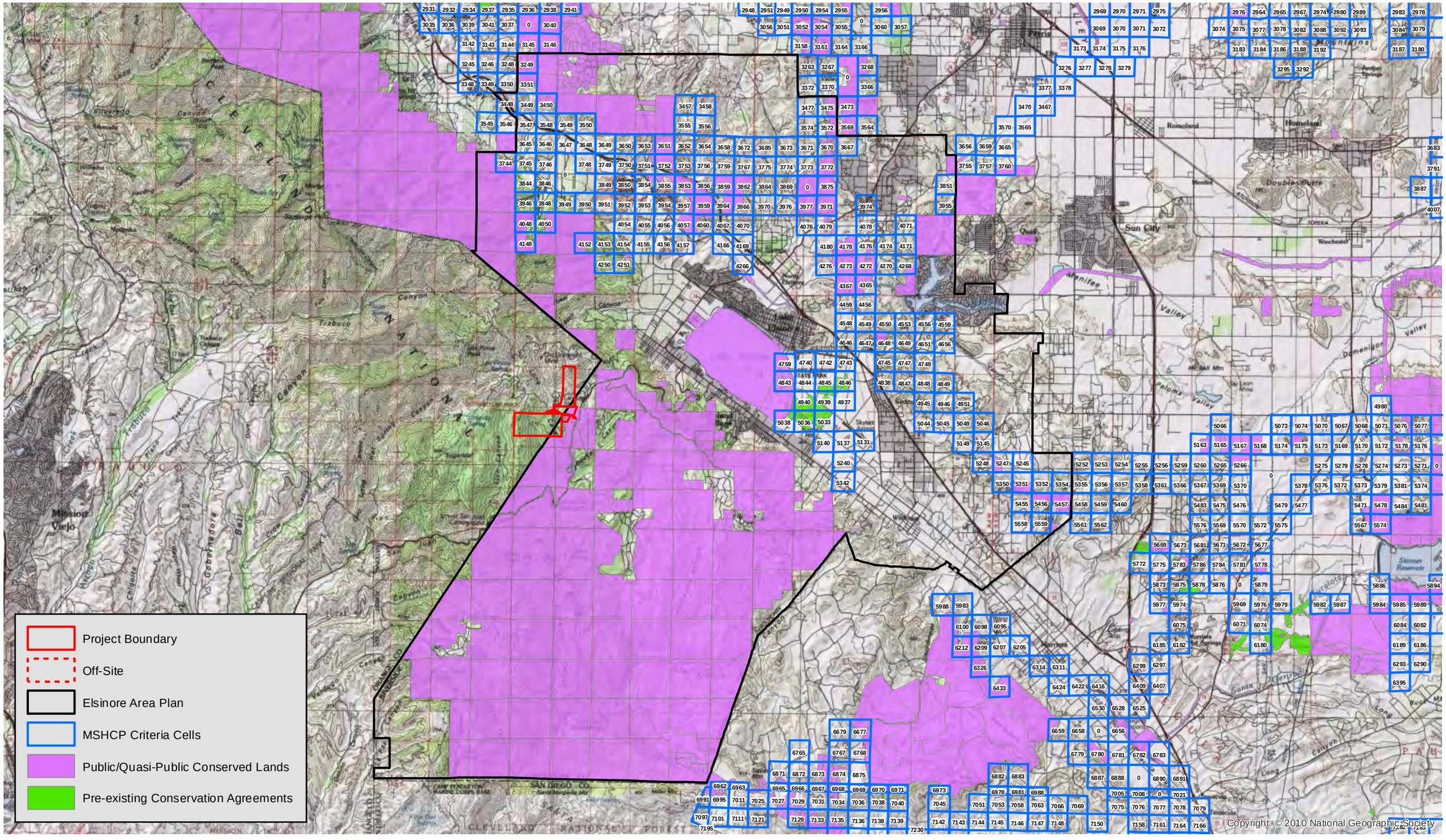
3.9.1 Location of the Study Area within the MSHCP Area Plan and Criteria Cells

The study area is located in the central western portion of the Elsinore Area Plan of the MSHCP and is not located within any Criteria Cells. The 49.2 acres of the USFS parcel are considered Public/Quasi-Public (PQP) lands within the MSHCP. Under the MSHCP, PQP lands form the backbone of the MSHCP Conservation Area. If impacts are proposed within PQP lands that alter the land use such that the land would not contribute to the MSHCP Conservation Area, then replacement acreage is required at a minimum ratio of 1:1. The replacement acreage must be biologically equivalent or superior to the existing property.[11]

3.9.2 Location of the Study Area within MSHCP Cores and Linkages

As mentioned previously in Section 3.5.2, *Wildlife Movement within the Study Area*, the study area is within Existing Core B. Existing Core B is composed of the Cleveland National Forest, which lines the western border of the MSHCP Area. Within the MSHCP Area, Existing Core B consists of two large and two small

[11] *Section 3.2.1 of the MSHCP.*



PCR

0 2.25 4.5 Miles

Location within the Elsinore Area Plan of the MSHCP

The Preserve

Source: USGS 100K Topographic Series (Santa Ana, Oceanside, CA); PCR Services Corporation, 2013.

FIGURE

10

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blocks of Public/Quasi-Public Lands. Existing Core B is connected to Existing Core A (Prado Basin/Santa Ana River) in the north via two Constrained Linkages (Proposed Constrained Linkage 1 and Proposed Constrained Linkage 2), in the center by Proposed Linkage 1 to the Lake Mathews/Estelle Mountain area, and in the south to the Tenaja Corridor (Proposed Linkage 9). Exiting Core B represents the second largest habitat block in the MSHCP Area and is located only 1.6 miles from the nearest connected Core. MSHCP studies of mountain lion movement within Existing Core B indicated that it provides both live-in and linkage habitat for this mammal, which requires very large blocks of intact habitat. Existing Core B then likely also provides linkage area for other mammals such as bobcat. Management entities in this existing Core include the USFS.

Planning Species listed for Existing Core B include Cooper's hawk, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), golden eagle (*Aquila chrysaetos*), turkey vulture, yellow warbler (*Dendroica petechia brewsteri*), mountain quail, downy woodpecker (*Picoides pubescens*), purple martin (*Progne subis*), California spotted owl (*Strix occidentalis occidentalis*), tree swallow (*Tachycineta bicolor*), mountain lion (*Puma concolor*), Palmer's grapplinghook (*Harpagonella palmeri*), prostrate spineflower (*Chorizanthe procumbens*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*), and small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*).

Of these Planning Species, the turkey vulture and mountain quail were observed within the study area. The yellow warbler, California spotted owl, tree swallow, Palmer's grapplinghook, graceful tarplant, and small-flowered microseris are not expected to occur within the study area due to the lack of suitable habitat or location of the study area outside of the species range. The remaining species, Cooper's hawk, southern California rufous-crowned sparrow, Bell's sage sparrow, golden eagle, downy woodpecker, purple martin, and prostrate spineflower were not observed but have the potential to occur within the study area.

3.9.3 Riparian/Riverine Areas and Vernal Pools

Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools,* of the MSHCP provides for the protection of Riparian/Riverine Areas and Vernal Pools within the MSHCP Plan Area. Riparian/Riverine areas are defined in the MSHCP as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." Vernal pools are defined in the MSHCP as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season."

As shown in **Figure 11**, MSHCP *Riparian/Riverine Areas*, the study area supports 1.8 acres of MSHCP Riparian/Riverine Areas. The Riparian/Riverine Areas within the study area include a portion of Long Canyon Creek (Drainage A), which is an intermittent drainage system; several ephemeral features that are tributary to Long Canyon Creek; and a small portion of Drainage C, an ephemeral drainage feature that crosses Long Canyon Road near Ortega Highway within the off-site portion of the study area. The ephemeral drainages support upland vegetation mostly dominated by chaparral with patches of coast live oak. The intermittent features support patches of coast live oak, western sycamore, and scattered willows along the banks and a rocky, mostly unvegetated streambed.

Although five man-made seasonal ponds occur within the Orange County portion of the study area, no vernal pools or other seasonal pond features occur within the Riverside County portion of the study area.

Riparian/Riverine Plant Species

A habitat assessment was conducted for species listed in Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, of the MSHCP. The results are presented in **Table 6**, *MSHCP Riparian/Riverine Plant Species*. One Riparian/Riverine plant species was observed in 2006 within the Orange County portion of the study area, Coulter's matilija poppy; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. Furthermore, this species was not observed within the Riverside County portion of the study area during any surveys. Three species, San Miguel savory, Fish's milkwort, and ocellated Humboldt lily, were not observed during focused surveys but have the potential to occur outside of the project impact footprint due to portions of the study area being inaccessible (i.e., due to dense habitat and steep terrain). However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. No other Riparian/Riverine plant species have the potential to occur due to the lack of suitable habitat or the location of study area outside of the species range, or based on the negative results of focused surveys.

Riparian/Riverine Wildlife Species

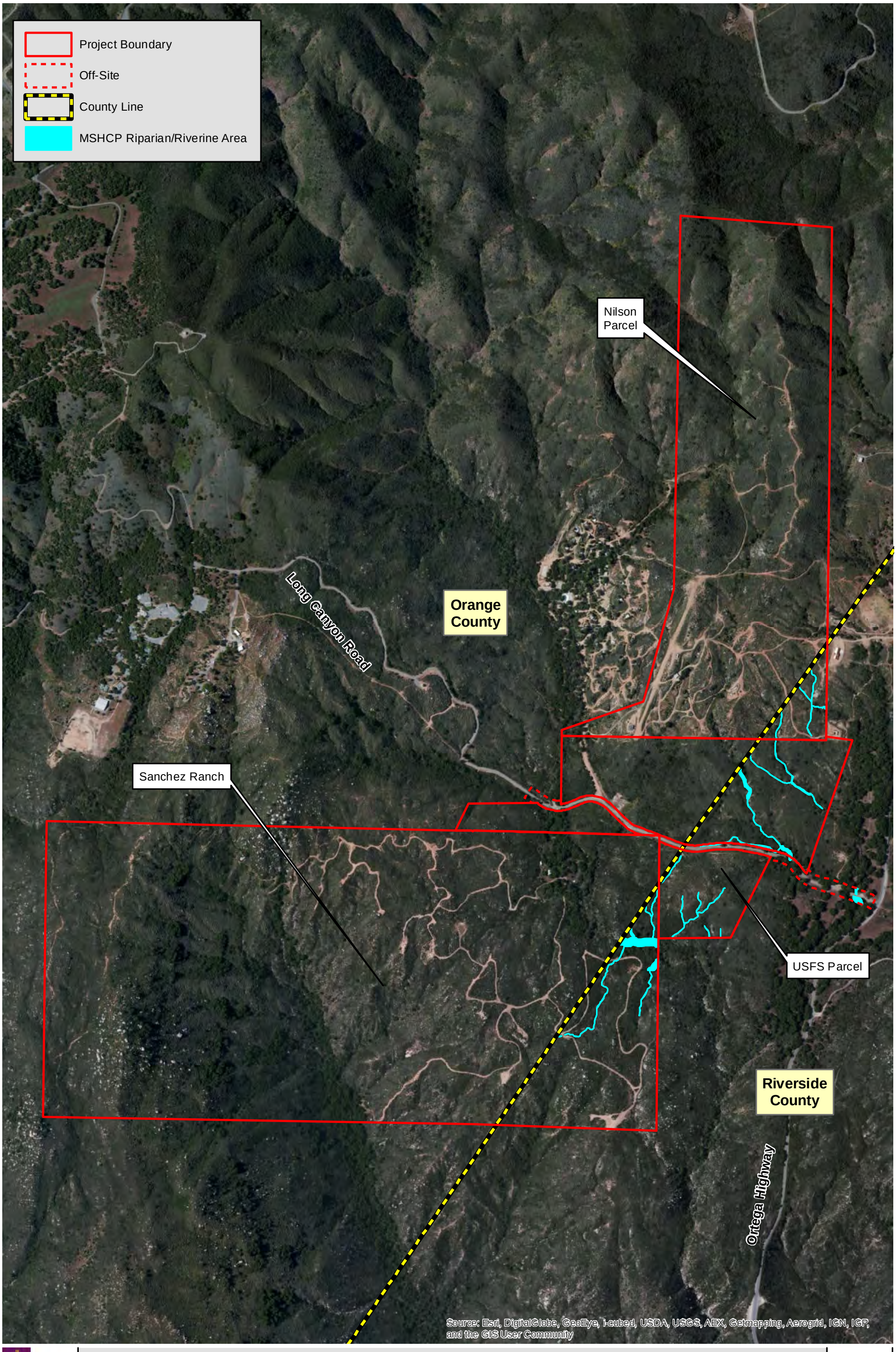
Habitat assessments were conducted for wildlife species listed in Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, of the MSHCP. One species, the American peregrine falcon, may forage within the study area as indicated in **Table 7**, *MSHCP Riparian/Riverine Wildlife Species*. No other species are expected to occur due to the lack of suitable habitat.[12]

3.9.4 Narrow Endemic Plant Species Survey Area

The study area is within Area 9 of the MSHCP's Narrow Endemic Plant Species Survey Area; therefore a habitat assessment was required for many-stemmed dudleya, California Orcutt grass, spreading navarretia, San Miguel savory, Hammitt's clay-cress, and Wright's trichocoronis.

San Miguel savory was not observed during focused surveys; however, there remains the potential for this species to occur outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. Many-stemmed dudleya is not expected to occur due to the elevation range of this species. Many-stemmed dudleya occurs at a lower elevation than the study area. California Orcutt grass, spreading navarretia, Hammitt's clay-cress, and Wright's trichocoronis were not observed during focused surveys and are not expected to occur within the study area due to the lack of clay soils and vernal pools.

[12] *Suitable habitat for fairy shrimp was identified in five seasonal ponds on-site; however, the seasonal ponds are located within the Orange County portion of the study area. Focused surveys (wet and dry season surveys in 2005-2006 and wet season surveys in 2013) thus far have been negative.*



PCR

N

0 900 1,800 Feet

MSHCP Riparian/Riverine Areas

The Preserve

Source: GLA, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

11

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Table 6

MSHCP Riparian/Riverine Plant Species

Species	Potential to Occur within the Study Area
Brand's phacelia *Phacelia stellaris*	Not expected to occur due to the elevation range of this species. Species occurs at a lower elevation than the study area.
California Orcutt grass *Orcuttia californica*	Not expected to occur due to the lack of vernal pools within the study area.
Coulter's matilija poppy *Romneya coulteri*	Suitable habitat occurs and this species was observed in the Orange County portion of the study area in 2006; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. The species was not observed during the Riverside County portion of the study area during any of the surveys.
Engelmann oak *Quercus engelmannii*	Not observed and not expected to occur. This is a conspicuous tree species that would have been detected if present.
Fish's milkwort *Polygala cornuta* var. *fishiae*	This species was not observed during focused surveys; however, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species.
graceful tarplant *Holocarpha virgata* ssp. *elongata*	Not expected to occur due to the elevation range of this species. Species occurs at a lower elevation than the study area.
lemon lily *Lilium parryi*	Not expected to occur. This species is restricted to the San Jacinto Mountains.
Mojave tarplant *Deinandra mohavensis*	Not expected to occur. This species is restricted to the San Jacinto Mountains.
mud nama *Nama stenocarpum*	Not expected to occur due to the elevation range of this species. Species occurs at a lower elevation than the study area.
ocellated Humboldt lily *Lilium humboldtii* ssp. *ocellatum*	This species was not observed during focused surveys; however, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species.
Orcutt's brodiaea *Brodiaea orcuttii*	Not expected to occur due to the species restricted range and lack of suitable habitat within the study area. This species occurs in wetland areas at the Santa Rosa Plateau, Miller Mountain, and San Jacinto River.
Parish's meadowfoam *Limnanthes gracilis* ssp. *parishii*	Not expected to occur. This species is restricted to the Santa Rosa Plateau within the MSHCP Plan Area.
prostrate navarretia *Navarretia prostrata*	Not expected to occur. This species is restricted to the Santa Rosa Plateau within the MSHCP Plan Area.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Not expected to occur. This species is restricted to the Santa Rosa Plateau within the MSHCP Plan Area.

Table 6 (Continued)

MSHCP Riparian/Riverine Plant Species

Species	Potential to Occur within the Study Area
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Not expected to occur due to the elevation range of this species. Species occurs at a lower elevation than the study area.
San Miguel savory *Satureja chandleri*	This species was not observed during focused surveys; however, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species.
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	Not expected to occur. This species is restricted to the Santa Ana River and alluvial fan sage scrub habitat which does not occur within the study area.
slender-horned spineflower *Dodecahema leptoceras*	Not expected to occur due to the lack of alluvial fan habitat.
smooth tarplant *Centromadia pungens* ssp. *laevis*	Not expected to occur due to the elevation range of this species and lack of alkaline areas. Species occurs at a lower elevation than the study area.
southern California black walnut *Juglans californica*	Not expected to occur. This is a conspicuous tree species that would have been detected if present.
spreading navarretia *Navarretia fossalis*	Not expected to occur due to the lack of vernal pools.
thread-leaved brodiaea *Brodiaea filifolia*	Not expected to occur due to the lack of clay soils.
vernal barley *Hordeum intercedens*	Not expected to occur due to the lack of alkaline areas and vernal pools.

Source: PCR Services Corporation 2013.

3.9.5 Additional Survey Needs and Procedures

Section 6.3.2, *Additional Survey Needs and Procedures*, of the MSHCP provides for additional survey needs for the burrowing owl, as well as a number of sensitive plant, amphibian, and mammal species.

Criteria Area Species Survey Area

The study area is not within the Criteria Area Species Survey Area; therefore, no surveys were required for Criteria Area plant species.

Table 7

MSHCP Riparian/Riverine Wildlife Species

Species	Potential to Occur within the Study Area
Arroyo toad *Anaxyrus californicus*	Not expected to occur due to the lack of suitable habitat.
Mountain yellow-legged frog *Rana muscosa*	Not expected to occur. This species is restricted to the San Jacinto Mountains portion of the MSHCP.
California red-legged frog *Rana aurora draytonii*	Not expected to occur due to the lack of suitable habitat.
Bald eagle *Haliaeetus leucocephalus*	Not expected to occur due to the lack of suitable habitat.
Least Bell's vireo *Vireo bellii pusillus*	Not expected to occur due to the lack of suitable habitat.
American peregrine falcon *Falco peregrinus anatum*	Not observed but could utilize the site for foraging. No suitable breeding habitat occurs within the study area.
Southwestern willow flycatcher *Empidonax traillii extimus*	Not expected to occur due to the lack of suitable habitat.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Not expected to occur due to the lack of suitable habitat.
Santa Ana sucker *Catostomus santaanae*	Not expected to occur due to the lack of suitable habitat.
Riverside fairy shrimp *Streptocephalus woottoni*	Not expected to occur due to the lack of suitable habitat.*
Vernal pool fairy shrimp *Branchinecta lynchi*	Not expected to occur due to the lack of suitable habitat.*

** Focused fairy shrimp surveys conducted within ponds in the Orange County portion of the study area did not detect this species.*

Source: PCR Services Corporation 2013.

Amphibian Species Survey Area

The study area is not within the Amphibian Species Survey Area;[13] therefore, no surveys are required.

Mammal Species Survey Area

The study area is not within the Mammal Species Survey Area; therefore, no surveys are required.

[13] *It should be noted that a portion of the previous study area analyzed in the 2008 Biological Resources Assessment was within the MSHCP Amphibian Species Survey Area (APN 385-260-020); therefore, a focused habitat assessment was conducted for the arroyo toad (Anaxyrus californicus) on April 6 and August 10, 2005 by PCR biologists Jason Berkley, Crysta Dickson, and Kristin Szabo. However, this APN is no longer included in the current study area boundary and therefore, the current study area is not within the MSHCP Amphibian Species Survey Area.*

Burrowing Owl Survey Area

The study area is not within the Burrowing Owl Survey Area; therefore, no surveys are required for this species.

3.9.6 Urban/Wildlands Interface

Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface*, presents a number of guidelines that are intended to address indirect effects associated with locating developments in proximity to a MSHCP Conservation Area. The study area is not within or adjacent to any Criteria Cells; however, it is surrounded by the open space of the Cleveland National Forest and PQP lands. Therefore, the potential for indirect impacts related to the urban edge were analyzed. These include the quantity and quality of any runoff generated by the development, night lighting, and noise-generating land uses. Project design features and best management practices incorporated into the proposed project to minimize these edge effects are discussed in detail in Section 4.6.6, *Consistency with an Adopted Habitat Conservation Plan*.

4.0 PROJECT RELATED IMPACTS

4.1 APPROACH TO THE ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the proposed project. For the purpose of this assessment, project-related impacts take two forms: direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or plant communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability.

Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or eventual habitation/operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the study area.

The determination of impacts in this analysis is based on both the features of the proposed project and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Relevant project features (e.g., limits of grading) were supplied by the Applicant. Much of this information was supplied in digital format and impacts were calculated using GIS technology in order to maximize the accuracy of the assessment. Project design features that avoid, preserve, or restore biological resources are taken into consideration and specifically described below prior to the assessment of potential adverse impacts.

The biological values of resources within, adjacent to, and outside the study area to be affected by the proposed project were determined by consideration of several factors. These included the overall size of habitats to be affected, the study area's previous land uses and disturbance history, the study areas surrounding environment and regional context, the biological diversity and abundance within the study area, the presence of sensitive and special-status plant and wildlife species, the study area's importance to regional populations of these species, and the degree to which habitats within the study area are limited or restricted in distribution on a regional basis and, therefore, are considered sensitive in themselves. Whereas this assessment is comprehensive, the focus is on sensitive plant communities/habitats, resources that play an important role in the regional biological systems, and special-status species.

4.2 THRESHOLDS OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance threshold criteria which mirror the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State to:

> "Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7, Thresholds of Significance, each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> "The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."

Appendix G of the CEQA Guidelines is more specific in addressing biological resources and encompasses a broader range of resources to be considered, including: candidate, sensitive, or special status species; riparian habitat or other sensitive natural communities; federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and, adopted HCPs. This is done in the form of a checklist of questions to be answered during the Initial Study leading to the preparation of the appropriate environmental documentation for a project. Because these questions are derived from standards in other laws, regulations, and other commonly used thresholds, it is reasonable to use these standards as a basis for defining significance thresholds. Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following conditions would result from implementation of the proposed project.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?
- 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?
- Interfere substantially with the movement of any 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?

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

For the purposes of this impact analysis the following definitions apply:

- "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive natural community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems. In the case of this analysis the prescribed geographical area is considered to be the region of the Cleveland National Forest within the Santa Ana Mountains that is bounded by the Temescal Valley and Elsinore Valley to the east, Camp Pendleton to the south, and the Anaheim Hills to the north and the Cleveland National Forest boundary to the west.
- "Conflict" means contradiction of a magnitude, which based on foreseeable circumstances, would preclude or prevent substantial compliance.
- "Rare" means: (1) that the species exists in such small numbers throughout all, or a significant portion of, its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the FESA.

4.3 PROJECT DESCRIPTION

The project would impact a total of 208.9 acres (201.3 acres on-site and 7.6 acres off-site) within the 745.0-acre study area, as shown in **Figure 12**, *Proposed Project*. A total of 536.1 acres would remain as open space. The Project would concentrate development on the Nilson parcel and Sanchez parcel with minor impacts on the USFS parcel to construct a road connecting the development on the Nilson parcel with the development on the Sanchez parcel and for fuel modification. Off-site impacts, totaling 7.6 acres, include off-site grading and fuel modification associated with improvements to Long Canyon Road.

The proposed project would include the development of 52 single-family residential units in two separate project areas, which would be implemented in two phases (Phase 1 south site, and Phase 2 north site). Phase 1 of the project would develop 30 single-family residences on the south site (i.e., Sanchez parcel) and includes improvements to Long Canyon Road. Development associated with Phase 1 would occur on 142.1 acres. Phase 2 (the north site; i.e., Nilson parcel) would develop 22 single-family residences and a club house facility for resident use within the northern portion of the study area. Development associated with Phase 2 would occur on 66.8 acres. The project would also include large areas of open space (536.1 acres of avoidance).

Phase 1 of the project would include off-site improvements to Long Canyon Road to provide an enhanced roadway to serve both phases of the project. In addition, during both phases, the project would develop the associated on-site roadway system and utility infrastructure to service the new residential uses. The

network of internal roadways within both sites would be designed with cul-de-sacs and landscaped planter islands to provide efficient and safe circulation throughout the project area.

The proposed project also includes development of 25 to 50 acres of vineyards throughout both phases of the project. The vineyards would contribute to the aesthetic quality and character of the site, and would not include wine making facilities. It is anticipated that the grapes would be harvested and sold. The vineyards would be planted on the existing natural terrain and vegetation of the project site, and would be owned and operated/maintained by a homeowner's association (HOA). HOA fees would pay for the operation of the vineyards; homeowners would not be individually responsible.

Because the project site is located within a high fire hazard area, a fuel modification plan is required per Orange County Fire Authority (OCFA) guidelines in order to provide a reasonable level of protection to structures from wildlands and vegetation fires. The minimum width of a fuel modification area is 170 feet and in some cases, the width increases due to type of terrain and/or type and mass of vegetation.

Water service to the new residences would be supplied by the Elsinore Valley Municipal Water District (EVMWD). However, approximately 208 acres of the project site would require annexation into EVMWD. The proposed project would include on-site and off-site improvements to the EVMWD infrastructure system. All of the off-site water distribution improvements would occur within the existing EVMWD right-of-way. The new on-site water distribution facilities would include a 12-inch distribution line that would be constructed throughout the developed portions of the project site during each construction phase. In addition, two 500,000 gallon water storage tanks would be installed, one within each phase.

Wastewater would be disposed of through the use of individual septic tanks located on each residential lot that would transmit the liquid portion of the waste to community leach fields. Leach fields would be located throughout the development area that would each serve several homes based on the specific percolation characteristics of that leach field area.

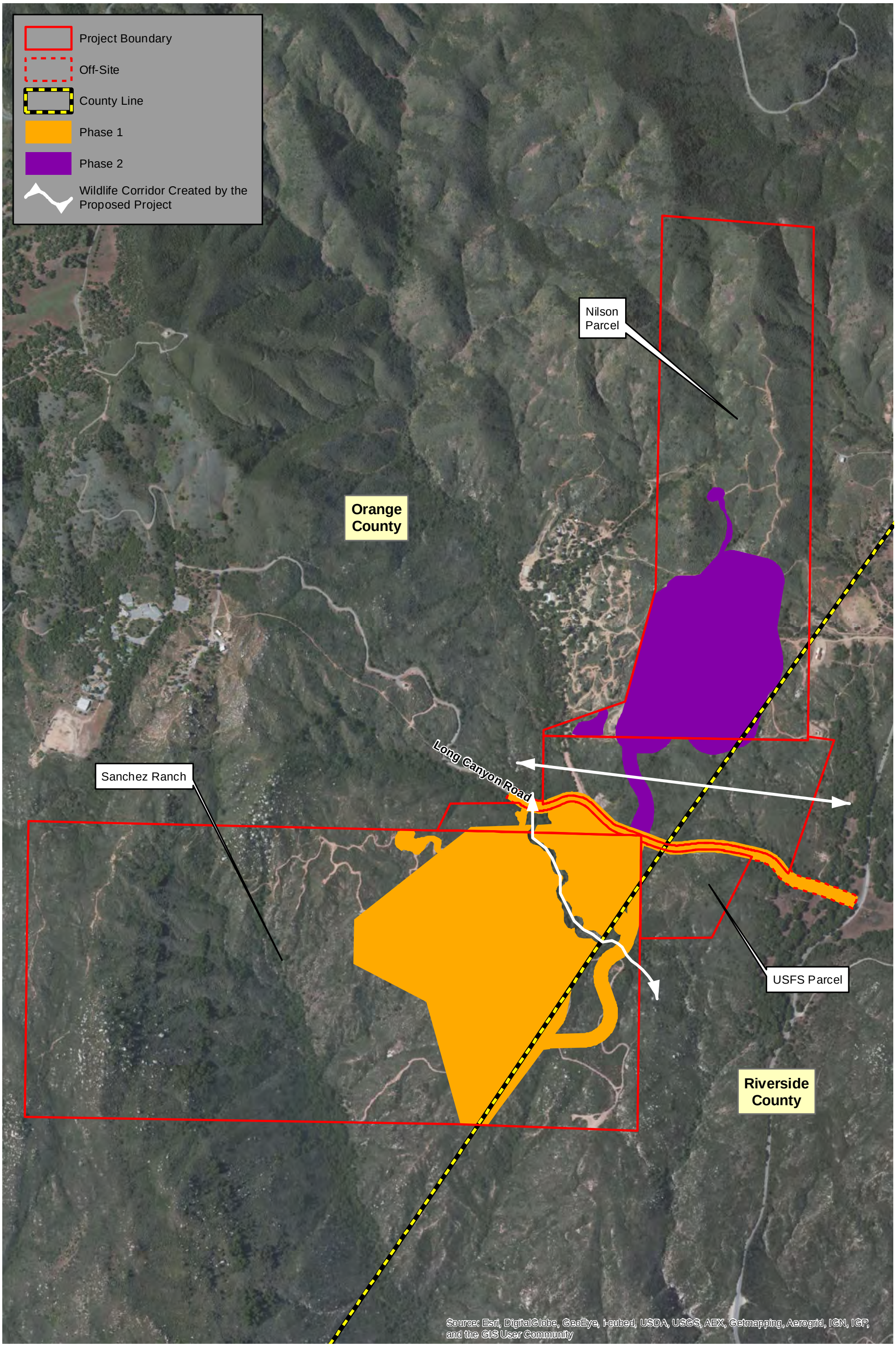
4.4 PROJECT DESIGN FEATURES

4.4.1 Avoidance Features

The proposed project avoids and preserves 536.1 acres (72 percent of the study area). This includes the avoidance of 487.4 acres of chaparral habitat and 33.0 acres of combined coast live oak woodland and coast live oak forest within the Nilson and Sanchez parcels. In addition, the project would avoid the two major drainage features within the Sanchez parcel (i.e., Drainage A and Drainage B) that supports habitat for numerous wildlife species, including the coast range newt, which is a sensitive wildlife species (SSC) that was observed in Drainage B in the southern portion of the study area.

4.4.2 Water Quality Features

The proposed project incorporates infiltration basins within the project design. The infiltration basins will capture and retain the difference in runoff flow rates between the site's natural and proposed conditions. Storm water runoff from the project site will be conveyed to the infiltration basins via vegetated bioswales, which will pre-treat the runoff prior to entering the basins. The vegetated bioswales are considered treat and release facilities and include treatment mechanisms that employ soil microbes and plants to treat suspended solids and dissolved



PCR

N

0 900 1,800 Feet

Proposed Project

The Preserve

Source: Robert Mitchell Associates, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

12

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pollutants in storm water using mechanisms characteristic of biologically active systems (Hunsaker & Associates 2013a). In addition, these structural Best Management Practices (BMPs) (e.g., vegetated bioswales and infiltration basins) comply with the South Orange County Hydromodification Management Plan (HMP) per current MS4 Permit (Hunsaker & Associates 2013b).[14]

4.4.3 Best Management Practices

The following BMPs have been incorporated into the project's design to ensure open space areas surrounding the proposed project will not be adversely affected.

Prior to and during construction, the following shall apply:

- The project impact footprint will be staked and fenced (e.g., with snow fencing or silt fencing) by a surveyor and the boundary will be confirmed by a qualified biological monitor. The construction site manager will ensure that the fencing is maintained for the duration of construction and that any required repairs are completed in a timely manner.
- Maintenance activities should not commence until 0700 hours and should be completed before dusk each day.
- If any wildlife is encountered during maintenance activities, the wildlife should be allowed to leave the work area unharmed and shall be flushed or herded in a safe direction away from the work area(s).
- Qualified biological monitor(s) will be on-site during all grubbing (i.e., vegetation removal) activities to flush any wildlife within the project impact footprint away from work areas.
- Any open trenches should be covered at the end of each work day in a manner to prevent the entrapment of wildlife, or adequately ramped to provide an animal escape.
- If night-time maintenance is required, lighting should be directed away from native vegetation and should be limited to the minimum amount necessary to complete the maintenance activities.
- Staging or storage areas should occur outside of any drainages.
- Any equipment or vehicles driven and/or operated within or adjacent to ponded or flowing water within any drainages should be checked and maintained daily, to prevent leaks of materials that, if introduced to water, could be harmful to aquatic species.
- All vehicles and equipment should be maintained in proper working condition to minimize fugitive emissions and accidental spills from motor oil, hydraulic fluid, grease, or other fluids or hazardous materials. All fuel or hazardous waste leaks, spills, or releases shall be stopped or repaired immediately and cleaned up at the time of occurrence. All spill material removed should be disposed of at an appropriate off-site landfill. Maintenance vehicles should carry appropriate equipment and materials to isolate and remediate leaks or spills, such as a spill containment kit.

[14] *The MS4 Permit (South Orange County) defines hydromodification as the change in the natural watershed due to urbanization. This urbanization can lead to increased flows in the stream and excess sediment transport. In addition biological impacts can occur in the streams. In accordance with the MS4 Permit, projects must comply with the following criteria: (1) For flow rates from 10 percent of the 2-year storm event to the 5 year storm event, the post-project peak flows shall not exceed predevelopment peak flows; and (2) For flow rates from the 5 year storm event to the 10 year storm event, the post-project peak flows may exceed pre-development flows by up to 10 percent for a 1 year frequency interval.*

- Stationary equipment such as motors, pumps, or generators, located within or adjacent to ponded or flowing water within drainages should be positioned over drip pans.
- No equipment maintenance should be done within or adjacent to ponded or flowing water within drainages where petroleum products or other pollutants from the equipment may enter into the water.
- No waste, cement, concrete, asphalt, paint, oil, or any other substances used during maintenance activities which could be hazardous to aquatic life, or other organic or earthen material, should be allowed to contaminate the soil and/or enter into or be placed where it may be washed by rainfall or runoff into ponded or flowing water within any drainages. Any of these materials placed where they may affect ponded or flowing water shall be removed immediately upon observation. When operations are completed, any excess non-native materials shall be removed from the work area. Only the use of native materials is expected to recontour existing baseline conditions (i.e., no non-native fill will be introduced to the open space areas).
- All litter and pollutions laws should be followed. If trash receptacles are provided within or near the work areas they should be wildlife-proof.
- All exposed/disturbed areas should be stabilized to the greatest extent possible using appropriate, industry standard erosion control measures.
- No maintenance activities should occur during active precipitation. If any precipitation is forecasted, the work area should be secured at least one day prior so no materials enter or wash into any drainages.

Upon project build-out (i.e., post-construction), the following shall apply:

- Lighting in backyards will be shielded and/or directed away from open space areas to ensure that ambient lighting within open space areas or wildlife corridors is not increased.
- Signage and fencing (other appropriate physical barriers) will be incorporated to deter unauthorized public access, domestic animal predation, and illegal trespass or dumping into open space areas or wildlife corridors.
- Wildlife crossing signage and low speed limits will be placed along Long Canyon Road, as well as the road along the eastern boundary of Phase 1 (particularly in the vicinity of where the road crosses Long Canyon Creek) and the road connecting Phase 1 to Phase 2 (particularly in the vicinity of where the road crosses the wildlife corridor) (see Section 4.6.4 for detailed discussion).
- Homeowners will be educated about the natural resources within their area. Education will emphasize the importance of:
    - Not dumping toxic chemicals down the storm drains;
    - Not planting invasive species[15] within their backyards, particularly those that are adjacent to open space areas or wildlife corridors;

[15] *Invasive species are considered to be those plant species on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory (Cal-IPC 2013).*

- Discouraging outdoor pets, particularly cats, due to predation on native wildlife;
- Obeying proper speed limits and watching out for wildlife, particularly within the vicinity of a wildlife corridor; and
- Obeying signs and fencing along open space areas and wildlife corridors.

4.5 STANDARD CONDITIONS

As part of the proposed project's review and approval, there are a number of performance criteria and standard conditions that must be met. Among these are those that relate to Federal and State regulating agencies for impacts to wetlands, riparian habitats, and stream courses.

4.5.1 State of California Fish and Game Code, Section 1602

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, it must first notify the CDFW of the proposed project. In the course of this notification process, the CDFW will review the proposed project as it affects streambed habitats within the project area. The CDFW may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate the potentially significant adverse impacts within CDFW jurisdictional limits.

4.5.2 Federal Clean Water Act (CWA), Section 404

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within "waters of the U.S." and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The permit review process entails an assessment of potential adverse impacts to USACE jurisdictional "waters of the U.S." and wetlands. In response to the permit application, the USACE will also require conditions amounting to mitigation measures. Where a federally-listed species may be affected, they will also require Section 7 consultation with the USFWS under the FESA. Through this process, potentially significant adverse impacts within the federal jurisdictional limits could be mitigated to a level that is less than significant.

4.5.3 Federal Clean Water Act, Section 401

The mission of the California RWQCB is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology. Section 401 of the CWA requires that:

> "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act."

Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that will address the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Porter-Cologne Act than under the federal CWA.

4.5.4 Natural Community Conservation Planning Program

The NCCP Act (the Act), Sections 2800-2840 of the State Fish and Game Code, authorized the preparation of NCCPs to protect natural communities and species while allowing a reasonable amount of economic development.

The Orange County portion of the study area is within the Southern Subregion Natural Communities Conservation Plan (SSNCCP); however, is outside of the Rancho Mission Viejo planning area and therefore not subject to the policies set forth in the SSNCCP.

The Riverside County portions of the study area (109.6 acres) are within the central western portion of the Elsinore Area Plan of the MSHCP and the proposed project is subject to applicable policies set forth in the MSHCP. The western Riverside County MSHCP, adopted by the County of Riverside on June 17, 2003, serves as a HCP pursuant to the Act and pursuant to Section 10 (a)(1)(B) of the FESA. The Implementation Agreement (IA) sets forth the implementation requirements for the MSHCP as well as procedures and minimization measures related to take of habitats and species considered for conservation. Implementation of the MSHCP authorizes participating jurisdictions to "take" specified plant and wildlife species within the MSHCP Plan Area. In addition, the wildlife agencies, namely CDFW and USFWS, allow take of habitat or individual species outside of the MSHCP Conservation Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area. The assembly and long-term management of the MSHCP Conservation Area is the responsibility of the Riverside County, State, and Federal governments; Cities within the western portion of Riverside County; and private and public entities that conduct activities which would potentially impact the habitats and species considered for conservation under the MSHCP.

4.6 IMPACT ANALYSIS

4.6.1 Impacts to Special Status Species

Will the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Wildlife Service?

Less than Significant with Mitigation Incorporated

4.6.1.1 Impacts to Special Status Plant Species

Several of the sensitive plant species mentioned in Section 3.8.3, *Sensitive Plant Species*, and Table 3, *Sensitive Plant Species*, may occur within the region but are not expected to occur within the study area due to the lack of suitable habitat, including Tecate cypress, San Diego button-celery, southern tarplant, smooth tarplant, Wright's trichocoronis, La Purisima Viguiera, Hammitt's clay-cress, San Jacinto Valley crownscale, Coulter's saltbush, Santa Monica Mountains dudleya, many-stemmed dudleya, sticky dudleya, round-leaved filaree, mud nama, California ayenia, Salt Spring checkerbloom, chaparral sand-verbena, prostrate vernal pool navarretia, Parry's spineflower, long-spined spineflower, slender-horned spineflower, thread-leaved brodiaea, Orcutt's brodiaea, lemon lily,and Parish's meadowfoam. As such, no impacts are expected to occur to these species.

One sensitive plant species, Coulter's matilija poppy, was observed within the study area. Approximately 16 individuals were observed in one location in the northeast corner of the Sanchez parcel during 2006 surveys; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. The area in which this species was previously found was dominated by a dense layer of Spanish broom (*Spartium junceum*); thus, it is suspected that this non-native broom outcompeted the Coulter's matilija poppy and that it no longer occurs on-site.

As discussed previously in Section 3.8.3, *Sensitive Plant Species*, a total of 29 additional species have the potential to occur within the study area, including California screw moss, Campbell's liverwort, bottle liverwort, San Diego ambrosia, Coulter's goldfields, white rabbit-tobacco, San Bernardino aster, Payson's jewel-flower, Robinson's pepper-grass, rainbow manzanita, summer holly, Parry's tetracoccus, Santiago Peak phacelia, heart-leaved pitcher sage, intermediate monardella, felt-leaved monardella, Hall's monardella, San Miguel savory, southern skullcap, spreading navarretia, Fish's milkwort, mesa horkelia, Santa Lucia dwarf rush, Munz's onion, foothill mariposa lily, ocellated Humboldt lily, California satintail, chaparral nolina, and California Orcutt grass. Focused sensitive plant surveys were conducted and none of these species were observed. Although focused surveys were conducted for all of these species, due to portions of the study area being inaccessible (i.e., due to dense habitat and steep terrain), there remains a low potential for the following species to occur: bottle liverwort, Payson's jewel-flower, Robinson's pepper-grass, Santiago Peak phacelia, heart-leaved pitcher sage, intermediate monardella, felt-leaved monardella, Hall's monardella, San Miguel savory, Fish's milkwort, mesa horkelia, and ocellated Humboldt lily. However, these potential areas are limited to portions of the study area outside of the project impact footprint, and probability of occurrence is considered low due to the dense canopies and lack of open areas observed that could support understory species. These species were not found within the project impact footprint which was accessible during focused surveys; therefore, these species, if present, will not be impacted by the proposed project.

4.6.1.2 Impacts to Special Status Wildlife Species

Several of the sensitive wildlife species mentioned in Section 3.8.4, *Sensitive Wildlife Species*, and Table 4, *Sensitive Wildlife Species*, may occur within the region but are not expected to occur within the study area due to the lack of suitable habitat including quino checkerspot butterfly, steelhead, arroyo chub, Santa Ana speckled dace, partially armored threespine stickleback, arroyo toad, California red-legged frog, western pond turtle, two-striped garter snake, bald eagle, burrowing owl, western yellow-billed cuckoo, western snowy plover, southwestern willow flycatcher, least Bell's vireo, yellow-breasted chat, coastal cactus wren, coastal California gnatcatcher, tri-colored blackbird, pallid bat, western yellow bat, American badger, pocketed free-tailed bat, San Diego black-tailed jackrabbit, and Stephens' kangaroo rat. As such, no impacts are expected to occur to these species.

Several additional sensitive wildlife species (detailed by taxonomic group below) were observed or have the potential to occur within the study area, as previously mentioned in Section 3.8.4, *Sensitive Wildlife Species*.

The study area supports suitable habitat for fairy shrimp (e.g., San Diego fairy shrimp and Riverside fairy shrimp). No fairy shrimp were observed during focused wet and dry surveys conducted in 2005-2006 (PCR 2006, 2007), or during wet season surveys conducted in 2012-2013 for Seasonal Ponds 2 and 3[16] (since these were the only two ponds which inundated) (PCR 2013). However, at the request of the USFWS, a dry season survey will be conducted in summer 2013 for Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season. Due to the negative results of previous focused surveys conducted, San Diego fairy shrimp and Riverside fairy shrimp are not expected to occur within the study area. As such, no impacts are expected to occur to these species. However, should *Branchinecta* cysts be identified during the dry season survey that will be conducted in summer 2013, the USFWS recommends additional wet season surveys be conducted during the 2013-2014 wet season to determine whether any listed fairy shrimp occur on-site (e.g., versus the common species of fairy shrimp *Branchinecta lindahli*).

One sensitive amphibian species, the coast range newt, was observed within the study area in three locations; two locations within Long Canyon Creek and one location within the unnamed drainage bisecting the Sanchez parcel. The proposed project was designed to avoid these drainages to the maximum extent practicable, and avoids the majority of the main drainage stem of Long Canyon Creek. However, the proposed project may directly impact the coast range newt to construct a road crossing across Long Canyon Creek. The road crossing would impact a maximum of approximately 200 linear feet of streambed of Long Canyon Creek. The study area supports approximately 2,900 linear feet of Long Canyon Creek on-site. In the context of the study area, impacts would only occur within seven percent of Long Canyon Creek, preserving 93 percent within the study area. The coast range newt is not listed as threatened or endangered; it is a SSC species and is a covered species under the MSHCP (though this species was observed within the Orange County portion of the Nilson parcel). Impacts to seven percent of Long Canyon Creek within the study area are not expected to drop populations of the coast range newt below self-perpetuating levels in the region. Furthermore, a pre-construction survey and construction monitoring are recommended to avoid direct impacts to the coast range newt, and are provided within the construction-related minimization measures included in Section 5.0, *Mitigation Measures*. Therefore, impacts are considered less than significant.

[16] *PCR consulted with the USFWS for guidance on whether dry season surveys would be required for Seasonal Ponds 2 and 3, which were perennially ponded. Per the recommendation of the USFWS, dry season surveys on Seasonal Ponds 2 and 3 were not recommended since they were perennially ponded due to human activities.*

An additional sensitive amphibian species, western spadefoot, has potential to occur on-site within the seasonal ponds. However, this species was not observed during focused surveys conducted for fairy shrimp. Furthermore, as discussed in Section 4.4.3, BMPs will ensure that there is a biological monitor on-site to relocate any species observed during monitoring that will minimize impacts to these species, if present. Thus, any potential impact to this species is considered less than significant.

Three sensitive reptile species, the coast horned lizard, rosy boa, and northern red-diamond rattlesnake, were observed within the study area. The coast horned lizard was observed on the Sanchez parcel and Nilson parcel but is expected to occur throughout the study area due to the presence of suitable habitat. The coastal rosy boa and northern red-diamond rattlesnake were observed on the Nilson parcel but are also expected to occur on all parcels of the study area. The coast horned lizard and northern red-diamond rattlesnake are covered species under the MSHCP; therefore, potential impacts within Riverside County are covered. The coast horned lizard is a SSC and USFS Sensitive species; the coastal rosy boa is a USFS Sensitive species; and the northern red-diamond rattlesnake is a SSC species. Several additional sensitive reptile species also have the potential to occur within the study area, including the orange-throated whiptail, San Bernardino ringneck snake, San Diego mountain kingsnake, and coast patch-nosed snake. In addition, the orange-throated whiptail and San Diego mountain kingsnake are covered under the MSHCP within the Riverside County portion. The proposed project would preserve 520.8 acres of suitable scrub, chaparral, and woodland habitats, as well as grassland habitats. With the available open space areas within the vicinity of the study area, as well as the open space areas which will be avoided on-site, potential impacts to these species are not expected to threaten regional populations. These species are also mobile and would be expected to move away from the construction area, if present. Furthermore, as discussed in Section 4.4.3, BMPs will ensure that there is a biological monitor on-site to relocate any species observed during monitoring that will minimize impacts to these species, if present. Thus, any potential impacts to these species are considered less than significant.

Two sensitive bird species, the white-tailed kite and northern harrier, were observed foraging within the study area. Several additional species have the potential to forage including the golden eagle, long-eared owl, and loggerhead shrike. All of these species, except the long-eared owl, are covered under the MSHCP. The proposed project would preserve 520.8 acres of suitable scrub, chaparral, and woodland habitats, as well as grassland habitats. With the available open space areas within the vicinity of the study area, as well as the open space areas which will be avoided on-site, potential impacts to foraging habitat for these species are not expected to threaten regional populations. Direct impacts would also be avoided as these species are mobile and would be expected to fly away from the construction area, if present. Furthermore, as discussed in Section 4.4.3, BMPs will ensure that there is a biological monitor on-site to flush any species observed during monitoring that will minimize impacts to these species, if present. Compliance with the Migratory Bird Treaty Act (MBTA) will also ensure no impacts to nests will occur (discussed in Section 4.6.4 below). Thus, any potential impacts to these species are considered less than significant.

No sensitive mammal species were observed within the study area; however several have the low to moderate potential to occur, including the western red bat, western mastiff bat, northwestern San Diego pocket mouse, and San Diego desert woodrat. The San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, and San Diego desert woodrat are covered species under the MSHCP. As mentioned previously, the study area is not within the Mammal Species Survey Area of the MSHCP. In addition, potential roosting habitat for western red bat and western mastiff bat will not be impacted by the proposed project. The proposed project would preserve 520.8 acres of suitable scrub, chaparral, and woodland habitats, as well as grassland habitats. With the available open space areas within the vicinity of the study

area, as well as the open space areas which will be avoided on-site, potential impacts to these species are not expected to threaten regional populations. These species are also mobile and would be expected to move away from the construction area, if present. Furthermore, as discussed in Section 4.4.3, BMPs will ensure that there is a biological monitor on-site to relocate any species observed during monitoring that will minimize impacts to these species, if present. Thus, any potential impacts to these species are considered less than significant.

4.6.1.3 Indirect Impacts to Sensitive Wildlife Species

As mentioned previously in Section 4.6.1.2, *Impacts to Special Status Wildlife Species*, the coast range newt, a SSC species, occurs within the study area and may be directly impacted by the proposed project due to the placement of a road crossing across Long Canyon Creek. In addition to these potential direct impacts, indirect impacts may occur due to fuel modification (i.e., decreased shading of the streambed, increased sedimentation) and discharge of project-generated runoff (i.e., water quality issues).

In addition to affecting the coast range newt on-site, indirect impacts may also affect sensitive wildlife species that are not expected to occur within the study area due to the lack of suitable habitat but that are known to occur downstream of the study area within San Juan Creek. These species include the arroyo toad (FE, SSC), partially armored threespine stickleback (USFS Sensitive), and arroyo chub (SSC, USFS Sensitive).

Portions of San Juan Creek are listed as impaired on the CWA Section 303(d) list of impaired water bodies (Hunsaker & Associates 2013a). Runoff from the proposed development has the potential to change the hydrologic regime of San Juan Creek, indirectly impacting habitat for the sensitive species mentioned above. Potential effects include changes in erosion and sedimentation rates, increased turbidity, and an increase in nutrients and pollutants associated with residential development and vineyard operation. However, the water quality measures outlined in Section 4.4, *Project Design Features*, are designed to treat runoff, as well as address hydromodification to ensure there are no increased downstream flows and excess sediment transport associated with the proposed project in accordance with the South Orange County HMP per current MS4 Permit (Hunsaker & Associates 2013a). Therefore, the potential for a detrimental effect on water quality and, indirectly, the arroyo toad, coast range newt, partially armored threespine stickleback, and arroyo chub is considered less than significant.

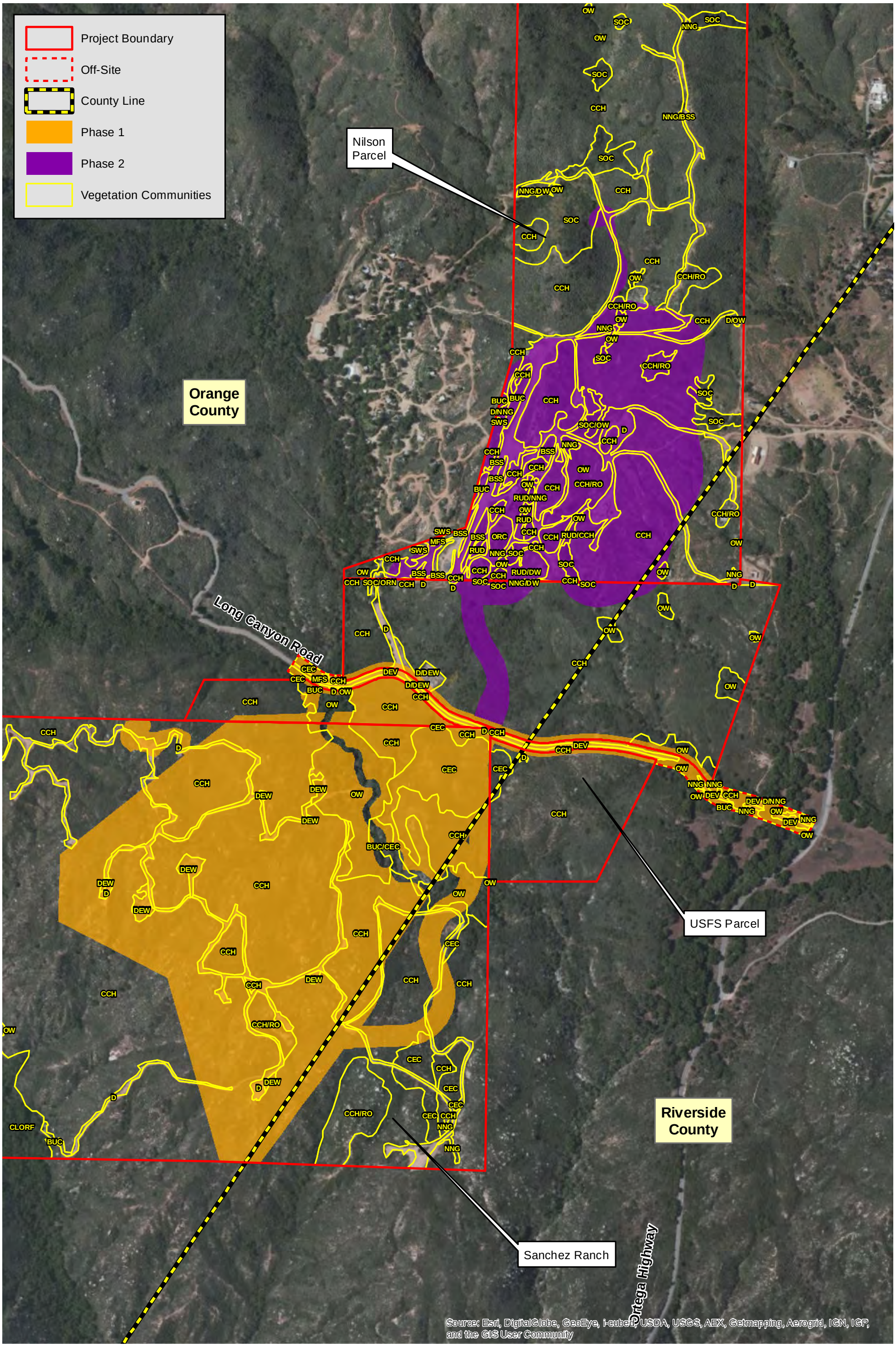
4.6.2 Impacts to Sensitive Plant Communities

Will the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated

The study area supports 40.9 acres of coast live oak woodland, 4.4 acres of coast live oak forest, and 0.2 acre of southern willow scrub, all of which are considered sensitive plant communities as discussed previously in Section 3.8.2, *Sensitive Plant Communities*.

As shown in **Figure 13**, *Impacts to Plant Communities* and detailed in **Table 8**, *Impacts to Plant Communities*, Phase 1 of the proposed project would impact 11.7 acres of coast live oak woodland (which includes 9.6 acres on-site and 2.1 acres off-site).



0 600 1,200 Feet

Impacts to Plant Communities

The Preserve

Source: Robert Mitchell Associates, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE 13

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Table 8

Impacts to Plant Communities

	Existing			Impacts						
				Phase 1			Phase 2			
Plant Community	**On-Site[a]**	**Off-Site**	**Total**	**On-Site[a]**	**Off-Site**	**Phase 1 Total**	**On-Site[a]**	**Off-Site**	**Phase 2 Total**	**Avoidance**
Black Sage Scrub	1.5	-	**1.5**	-	-	**-**	1.3	-	**1.3**	0.2
Buckwheat Scrub	1.0	0.1	**1.1**	-	0.1	**0.1**	0.8	-	**0.8**	0.2
Buckwheat Scrub/Hoaryleaf Ceanothus Chaparral	1.2	-	**1.2**	0.4	-	**0.4**	-	-	**-**	0.8
Chamise Chaparral	585.8	1.9	**587.7**	105.9	1.9	**107.8**	42.4	-	**42.4**	437.5
Chamise Chaparral/Rock Outcrop	38.5	-	**38.5**	1.5	-	**1.5**	4.4	-	**4.4**	32.6
Deerweed Series	1.7	-	**1.7**	1.7	-	**1.7**	-	-	**-**	-
Hoaryleaf Ceanothus Chaparral	13.3	0.5	**13.8**	8.5	0.5	**9.0**	-	-	**-**	4.8
Scrub Oak Chaparral	13.7	-	**13.7**	-	-	**-**	1.3	-	**1.3**	12.4
Scrub Oak Chaparral/Ornamental	0.1	-	**0.1**	-	-	**-**	-	-	**-**	0.1
Scrub Oak Chaparral/Coast Live Oak Woodland	0.5	-	**0.5**	-	-	**-**	0.5	-	**0.5**	-
Coast Live Oak Woodland	**38.8**	**2.1**	**40.9**	**9.6**	**2.1**	**11.7**	**0.6**	**-**	**0.6**	**28.6**
Coast Live Oak Forest	**4.4**	**-**	**4.4**	**-**	**-**	**-**	**-**	**-**	**-**	**4.4**
Southern Willow Scrub	**0.2**	**-**	**0.2**	**-**	**-**	**-**	**<0.1**	**-**	**<0.1**	**0.2**
Mule Fat Scrub	0.1	0.1	**0.2**	-	0.1	**0.1**	0.1	<0.1	**0.1**	-
Cattail Stand	<0.1	-	**<0.1**	-	-	**-**	<0.1	-	**<0.1**	-
Non-Native Grassland	0.6	0.6	**1.2**	-	0.6	**0.6**	0.3	-	**0.3**	0.3
Non-Native Grassland/Deerweed Series	0.4	-	**0.4**	-	-	**-**	<0.1	-	**<0.1**	0.4
Non-Native Grassland/Rock Outcrop	0.3	-	**0.3**	-	-	**-**	-	-	**-**	0.3
Non-Native Grassland/Black Sage Scrub	<0.1	-	**<0.1**	-	-	**-**	-	-	**-**	<0.1
Ruderal	0.5	-	**0.5**	-	-	**-**	0.5	-	**0.5**	-
Ruderal/Chamise Chaparral	0.2	-	**0.2**	-	-	**-**	0.2	-	**0.2**	-
Ruderal/Deerweed Series	1.1	-	**1.1**	-	-	**-**	1.1	-	**1.1**	-
Ruderal/Non-Native Grassland	0.1	-	**0.1**	-	-	**-**	0.1	-	**0.1**	-

Table 8 (Continued)

Impacts to Plant Communities

	Existing			Impacts						
				Phase 1			Phase 2			
Plant Community	On-Site[a]	Off-Site	Total	On-Site[a]	Off-Site	Phase 1 Total	On-Site[a]	Off-Site	Phase 2 Total	Avoidance
Disturbed	31.5	0.1	**31.6**	6.7	0.1	**6.8**	12.3	<0.1	**12.3**	12.5
Disturbed/Non-Native Grassland	0.2	0.1	**0.3**	-	0.1	**0.1**	0.2	-	**0.2**	-
Disturbed/Coast Live Oak Woodland	0.1	-	**0.1**	-	-	**-**	-	-	**-**	0.1
Disturbed/Deerweed Series	0.9	0.1	**1.0**	0.2	0.1	**0.3**	-	-	**-**	0.7
Orchard	0.7	-	**0.7**	-	-	**-**	0.7	-	**0.7**	-
Developed	-	2.0	**2.0**	-	2.0	**2.0**	-	-	**-**	-
TOTAL	**737.4**	**7.6**	**745.0**	**134.5**	**7.6**	**142.1**	**66.8**	**<0.1**	**66.8**	**536.1**

[a] *Includes the Nilson, Sanchez, and USFS parcels.*

Source: PCR Services Corporation, 2013.

Development of Phase 2 would impact 0.6 acre of coast live oak woodland on-site. Phase 2 of the proposed project would also impact less than 0.1 acre of southern willow scrub on-site.

Approximately 28.6 acres of coast live oak woodland and 0.2 acre of southern willow scrub would be avoided by the proposed project. The 4.4 acres of coast live oak forest would be completely avoided by the proposed project. Because these communities are considered sensitive, and due to the protection of coast live oak woodland under State law (i.e., SB 1334), impacts are considered potentially significant without off-setting mitigation measures. Mitigation measures for impacts to sensitive plant communities are included in Section 5.0, *Mitigation Measures*.

4.6.3 Impacts to Wetlands

Will the proposed project 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?

Less than Significant with Mitigation Incorporated

The project was designed to avoid the two major drainage features within the study area, Drainage A (Long Canyon Creek) and Drainage B, as well as numerous associated tributaries.

Development of Phase 1 would result in permanent impacts to 0.32 acre (7,786 linear feet) of potential USACE and RWQCB jurisdiction, none of which consists of jurisdictional wetlands, and 1.52 acres of CDFW jurisdiction, of which 1.37 acres consist of vegetated riparian habitat, as shown in **Figure 14**, *Impacts to Jurisdictional Features* and summarized in **Table 9**, *Impacts to Jurisdictional Features (Phase 1) for the 340-Acre Study Area*. It should be noted that no development would occur within the streambed or riparian canopy of Drainage A (Long Canyon Creek).

Development of Phase 2 would result in permanent impacts to 0.24 acre (7,876 linear feet) of potential USACE and RWQCB jurisdiction, none of which consists of jurisdictional wetlands, and 0.70 acre of CDFW jurisdiction, of which 0.49 acre consists of vegetated riparian habitat (see **Table 10**, *Impacts to Jurisdictional Features (Phase 2) for the 340-Acre Study Area*).

Impacts to jurisdictional features are considered potentially significant without off-setting mitigation measures. Mitigation measures for impacts to jurisdictional features are included in Section 5.0, *Mitigation Measures*.

4.6.4 Impacts to Wildlife Movement and Migratory Species

Will the proposed project interfere substantially with the movement of any 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?

Less than Significant with Mitigation Incorporated

The study area has the potential to support nesting birds protected under the Migratory Bird Treaty Act (MBTA). Nesting activity typically occurs from January 15 to August 31. Disturbing or destroying active

Table 9

Impacts to Jurisdictional Features (Phase 1)
for the 340-Acre Study Area

Drainage Feature	USACE Non-Wetland Waters	USACE Wetland	Total USACE	CDFW Unvegetated Streambed	CDFW Riparian Habitat	Total CDFW	RWQCB	Linear Feet
A	0.03	0.00	0.03	0.00	0.31	0.31	0.03	196
A3	0.02	0.00	0.02	0.01	0.13	0.14	0.02	898
A6	0.05	0.00	0.05	0.02	0.28	0.30	0.05	853
A7	0.01	0.00	0.01	0.00	0.05	0.05	0.01	121
A10	0.08	0.00	0.08	0.05	0.44	0.49	0.08	3,097
A11	0.02	0.00	0.02	0.02	0.04	0.06	0.02	793
A13	0.01	0.00	0.01	0.01	0.00	0.01	0.01	498
A15	0.02	0.00	0.02	0.02	0.00	0.02	0.02	848
B17	0.02	0.00	0.02	0.02	0.00	0.02	0.02	352
C	0.06	0.00	0.06	0.00	0.12	0.12	0.06	131
Total	**0.32**	**0.00**	**0.32**	**0.15**	**1.37**	**1.52**	**0.32**	**7,786**

Source: Glenn Lukos Associates, 2013.

nests is a violation of the MBTA. In addition, nests and eggs are protected by the State under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact. Mitigation provided in Section 5.0, *Mitigation Measures* to conduct nesting bird surveys and avoid active nests, would reduce this impact to a less than significant level.

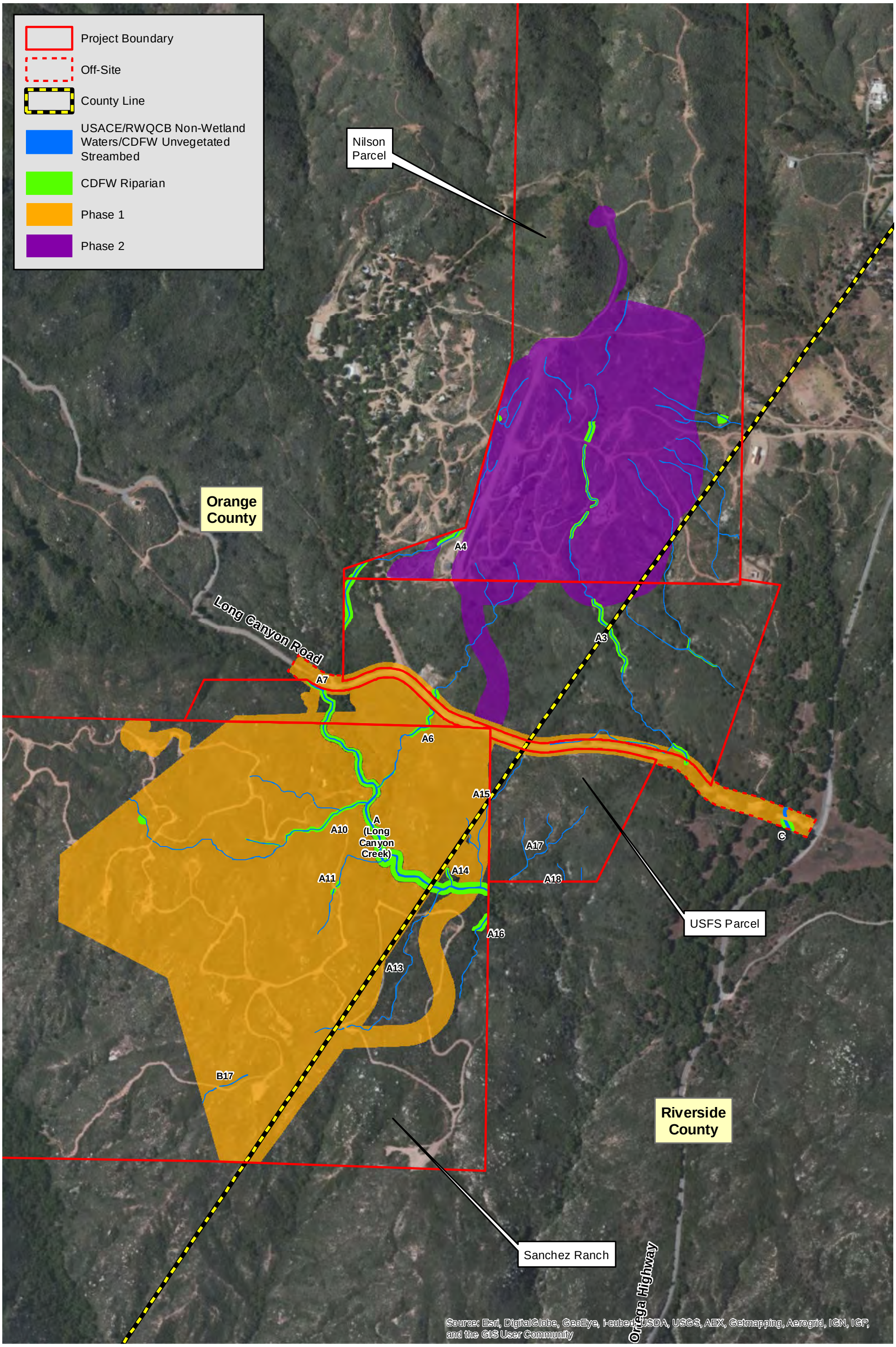
In the context of regional wildlife movement, as discussed in Section 3.5, no wildlife corridors currently exist within the study area (since a wildlife corridor is habitat connecting two or more habitat patches that would otherwise be fragmented or isolated from one another by development, and there is currently little development existing within the area). Wildlife currently move freely through the study area via existing travel routes, particularly the drainages (e.g., Long Canyon Creek, Drainage B), ridgelines, and existing dirt roads (e.g., during surveys, deer were observed using the roads).

Table 10

Impacts to Jurisdictional Features (Phase 2)
for the 340-Acre Study Area

Drainage Feature	USACE Non-Wetland Waters	USACE Wetland	Total USACE	CDFW Unvegetated Streambed	CDFW Riparian Habitat	Total CDFW	RWQCB	Linear Feet
A3	0.18	0.00	0.18	0.15	0.46	0.61	0.18	5,335
A4	0.04	0.00	0.04	0.04	0.03	0.07	0.04	1,640
A6	0.02	0.00	0.02	0.02	0.00	0.02	0.02	901
Total	**0.24**	**0.00**	**0.24**	**0.21**	**0.49**	**0.70**	**0.24**	**7,876**

Source: Glenn Lukos Associates, 2013.



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Impacts to Jurisdictional Features

The Preserve

Source: GLA, 2013; Robert Mitchell Associates, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

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Approximately 536.1 acres (72 percent) of the study area will be avoided by the proposed project, including two major drainages within the study area, Long Canyon Creek and Drainage B, which will facilitate regional wildlife movement through the area. However, the proposed impact area will inhibit wildlife movement via other wildlife travel routes through the study area. To minimize the overall project footprint as well as associated edge effects, the proposed project clusters development into two areas within the flatter and more disturbed portions of the study area, Phase 1 to the south on the Sanchez parcel, and Phase 2 to the north on the Nilson parcel.

Two wildlife corridors will be created by and preserved within the proposed project, as shown in Figure 12, *Proposed Project*. One wildlife corridor is created within the USFS parcel north of Long Canyon Road (bordered to the south by Long Canyon Road and Phase 1 development, and bordered to the north by Phase 2 development). This wildlife corridor is comprised mostly of chamise chaparral, with some sparse patches of coast live oak woodland, and parallels Long Canyon Road. Long Canyon Road will be widened as a part of Phase 1 development. Although there is potential for wildlife to use this paved road as a travel route, there is also open space area within the wildlife corridor to the north of the road that provides habitat for these species. Furthermore, as discussed in Section 4.4.3, BMPs will be incorporated along Long Canyon Road, as well as the proposed main road to Phase 2 (i.e., the road connecting Phase 1 and Phase 2), including wildlife crossing signage, low speed limits, and homeowner education, to minimize wildlife mortality by vehicular impacts.

A second wildlife corridor is created along Long Canyon Creek (bordered by clusters of development associated with Phase 1 to the northeast and southwest). This wildlife corridor is comprised mostly of coast live oak woodland with some patches of chaparral. Although the project impact footprint for this analysis provides for a "worst case scenario" for impacts and does not show a detailed site plan, the proposed project consists of rural residences and a total of 25 to 50 acres of vineyards throughout both phases of the project. Thus, there will not be dense development immediately adjacent to the creek, but rather sparse rural development and associated vineyards, landscaping, and fuel modification, which may add additional vegetative buffer between the development and the wildlife corridor. BMPs will also be incorporated along this wildlife corridor, particularly for roads immediately within the vicinity of the creek, including wildlife crossing signage, low speed limits, and homeowner education, to minimize wildlife mortality by vehicular impacts.

These two wildlife corridors are expected to facilitate regional wildlife movement through the study area in an east-west and northwest-southeast directions, respectively. Although the proposed project inhibits some north-south movement through the study area with the proposed developments (Phases 1 and 2), regional north-south movement is possible via the Long Canyon Creek corridor, as well as within open space areas east of the project's impact footprint, and farther to the west of the project's impact footprint (e.g., via Drainage B which is avoided by the proposed project). Furthermore, regional movement in a east-west direction is possible within open space areas to the north and to the south of the project's impact footprint for more secretive wildlife species, such as mountain lion, if they are deterred by the rural residential development and do not want to use the wildlife corridors provided through the study area. Therefore, impacts to wildlife movement are considered less than significant.

4.6.5 Consistency with Local Policies and Ordinances

Will the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant with Mitigation Incorporated

Oak trees in unincorporated portions of Orange County are subject to management guidelines outlined in Public Resources Code (PRC) 21083.4 (Senate Bill 1334, as adopted). In addition, oak trees within the Riverside County portion of the study area are subject to Riverside County Oak Tree Management Guidelines. Approximately 2,985 trees (93.7%) within Orange County and 348 trees (79.3%) within Riverside County, consisting primarily native coast live oaks, will be avoided by the proposed project. As indicated by the low percentage of impacted trees, project planners worked with Dudek arborists and foresters to minimize oak impacts. However, given the project footprint, engineering and grading requirements, and fuel modification areas, complete avoidance of tree impacts was not possible.

The project would potentially impact up to 201 trees in Orange County (in both Phases 1 and 2) and 91 trees in Riverside County (in Phase 1). The majority of these trees are native coast live oaks, as shown in **Figure 15**, *Impacts to Regulated Trees*.

A total of 258 trees will be impacted by Phase 1 of the proposed project (167 trees in Orange County, 91 trees in Riverside County). This includes direct impacts to 103 trees (including 95 coast live oaks and 8 western sycamores) and indirect impacts to 64 trees (including 53 coast live oaks and 11 western sycamores) within Orange County, as well as direct impacts to 82 trees (including 82 coast live oaks) and indirect impacts to 9 trees (including 3 coast live oaks and 6 western sycamores) within Riverside County.

A total of 34 trees will be impacted by Phase 2 of the proposed project (all within Orange County). This includes direct impacts to 26 trees (including 20 coast live oak and 6 western sycamore) and indirect impacts to 8 trees (including 5 coast live oak and 3 western sycamore). Detailed information regarding impacts to regulated trees is available in **Appendix C**, *Tree Management and Preservation Plan* (Dudek 2013).

The removal of oak trees is considered potentially significant without off-setting mitigation measures. Mitigation provided in Sections 5.2.2 and 5.2.5 for impacts to oak woodlands and regulated oak trees, respectively, would ensure compliance with the Riverside County Oak Tree Management Guidelines and State law (i.e., Senate Bill 1334).

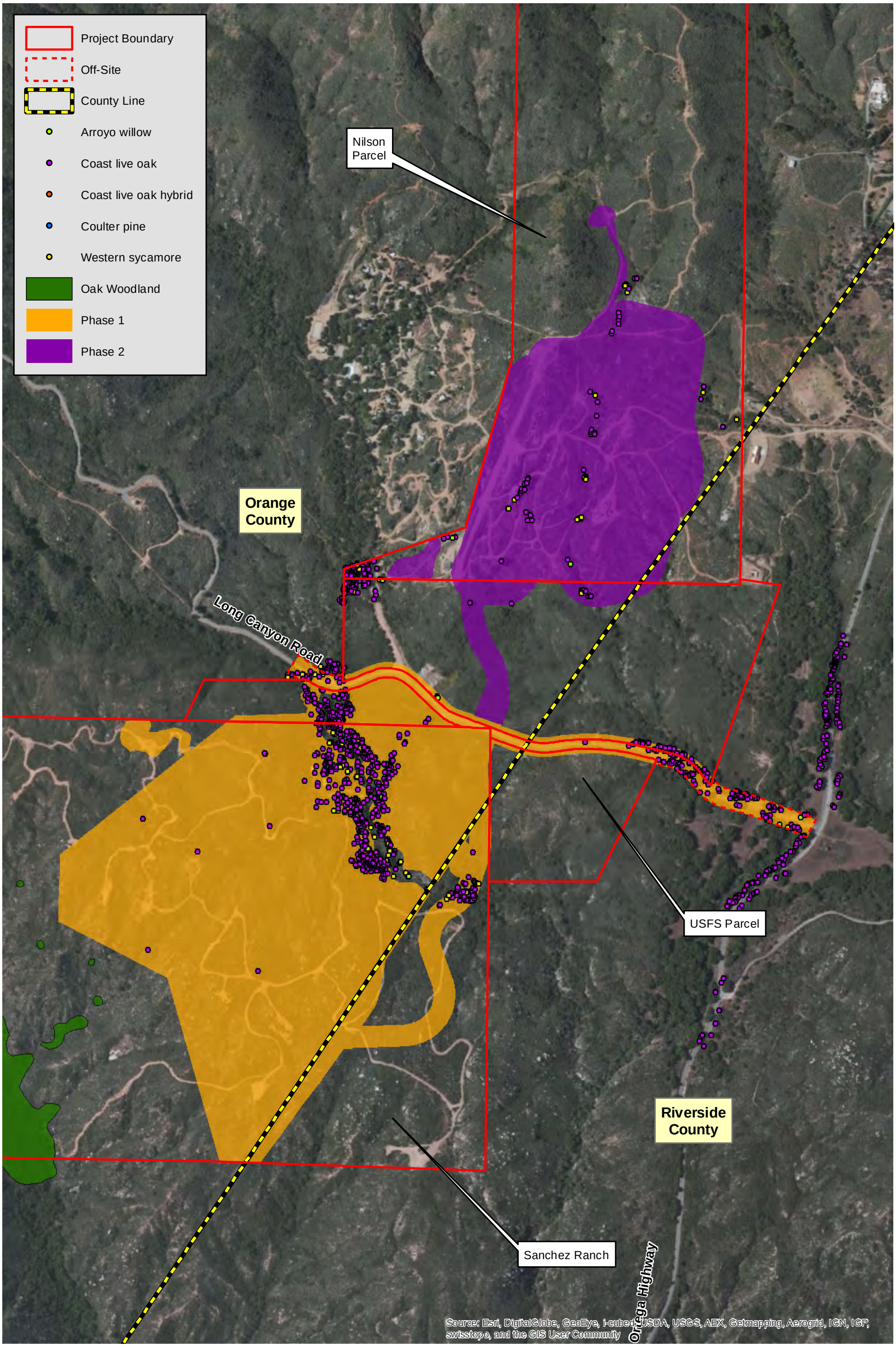
4.6.6 Consistency with an Adopted Habitat Conservation Plan

Will the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant with Mitigation Incorporated

4.6.6.1 Criteria Cells

Approximately 109.6 acres of the study area (7.7 acres within the Nilson parcel, 48.0 acres within the Sanchez parcel, 49.2 acres within the USFS parcels, and 4.7 acres off-site) are within Riverside County and



N

0 600 1,200 Feet

PCR

Impacts to Regulated Trees

The Preserve

Source: Dudek, 2013; Robert Mitchell Associates, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

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the Elsinore Area Plan of the MSHCP; however, the study area does not fall within a Criteria Cell. Therefore, the proposed project is not required to provide additional conservation pertaining to Criteria Cells.

Of the approximately 49.2 acres of PQP lands within the USFS parcel within the Riverside County portion of the study area, only the areas immediately along Long Canyon Road associated with road improvements would be impacted. Safety improvements (e.g., roadway widening, grading shoulders [up to 12 feet from the edge of paved or unpaved roadways]) to publicly maintained existing roadways within PQP lands are covered activities under the MSHCP, subject to the approval of the Western Riverside County Regional Conservation Authority (WRC RCA). These safety improvements are subject to compliance with the MSHCP's *Best Management Practices*, as detailed in Appendix C of MSHCP.

In addition, the project would be required to pay a development fee for the MSHCP.

4.6.6.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (MSHCP Section 6.1.2)

The study area supports 1.8 acres of MSHCP Riparian/Riverine (1.6 acres on-site and 0.2 acre off-site). Impacts would occur to 0.6 acre (0.4 acre on-site and 0.2 acre off-site) as shown in **Figure 16** , *Impacts to MSHCP Riparian/Riverine Areas*. In the absence of mitigation to off-set the net loss of Riparian/Riverine Areas, impacts are considered potentially significant. Mitigation measures for impacts to Riparian/Riverine Areas are included in Section 5.0, *Mitigation Measures*.

The Riverside County portion of the study area does not support vernal pools. Although a series of ponds occurs in the southwest portion of the Nilson parcel, these features occur within Orange County and are therefore not subject to the MSHCP policies. It should be noted, however, that protocol surveys for fairy shrimp conducted within these ponds were negative.

Riparian/Riverine plant species with the potential to occur within the study area include Coulter's matilija poppy, Fish's milkwort, ocellated Humboldt lily, and San Miguel savory. Coulter's matilija poppy was previously observed in the Orange County portion of the study area in 2006; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. Furthermore, Coulter's matilija poppy was not observed in the Riverside County portion of the study area during any surveys; therefore, no impacts would occur to this species. Fish's milkwort, ocellated Humboldt lily, and San Miguel savory were not observed within the study area; however, although focused surveys were conducted for all of these species, due portions of the study area being inaccessible (i.e., due to dense habitat and steep terrain), there remains a low potential for the following species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. Because these species, if present, will not be impacted by the proposed project, impacts are considered less than significant.

One Riparian/Riverine wildlife species has the potential to occur, the American peregrine falcon. This species is not expected to breed within the study area due to the lack of suitable habitat; however, may forage in the area. Due to the preservation of 536.1 acres of open space within the study area (72 percent of the study area), foraging habitat will be preserved and potential impacts to the American peregrine falcon are less than significant.

4.6.6.3 Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3)

As mentioned previously in Section 3.9.4, *Narrow Endemic Plant Species Survey Area*, the study area is within Area 9 of the MSHCP's Narrow Endemic Plant Species Survey Area and a habitat assessment was conducted for many-stemmed dudleya, California Orcutt grass, spreading navarretia, San Miguel savory, Hammitt's clay-cress, and Wright's trichocoronis. Of these species, San Miguel savory has the potential to occur within the study area. Although focused surveys were conducted for this species, due portions of the study area being inaccessible (i.e., due to dense habitat and steep terrain), there remains a low potential for the following species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. However, because these species, if present, will not be impacted by the proposed project, impacts are considered less than significant.

4.7.6.4 Additional Survey Needs and Procedures Required by the MSHCP (MSHCP Section 6.3.2)

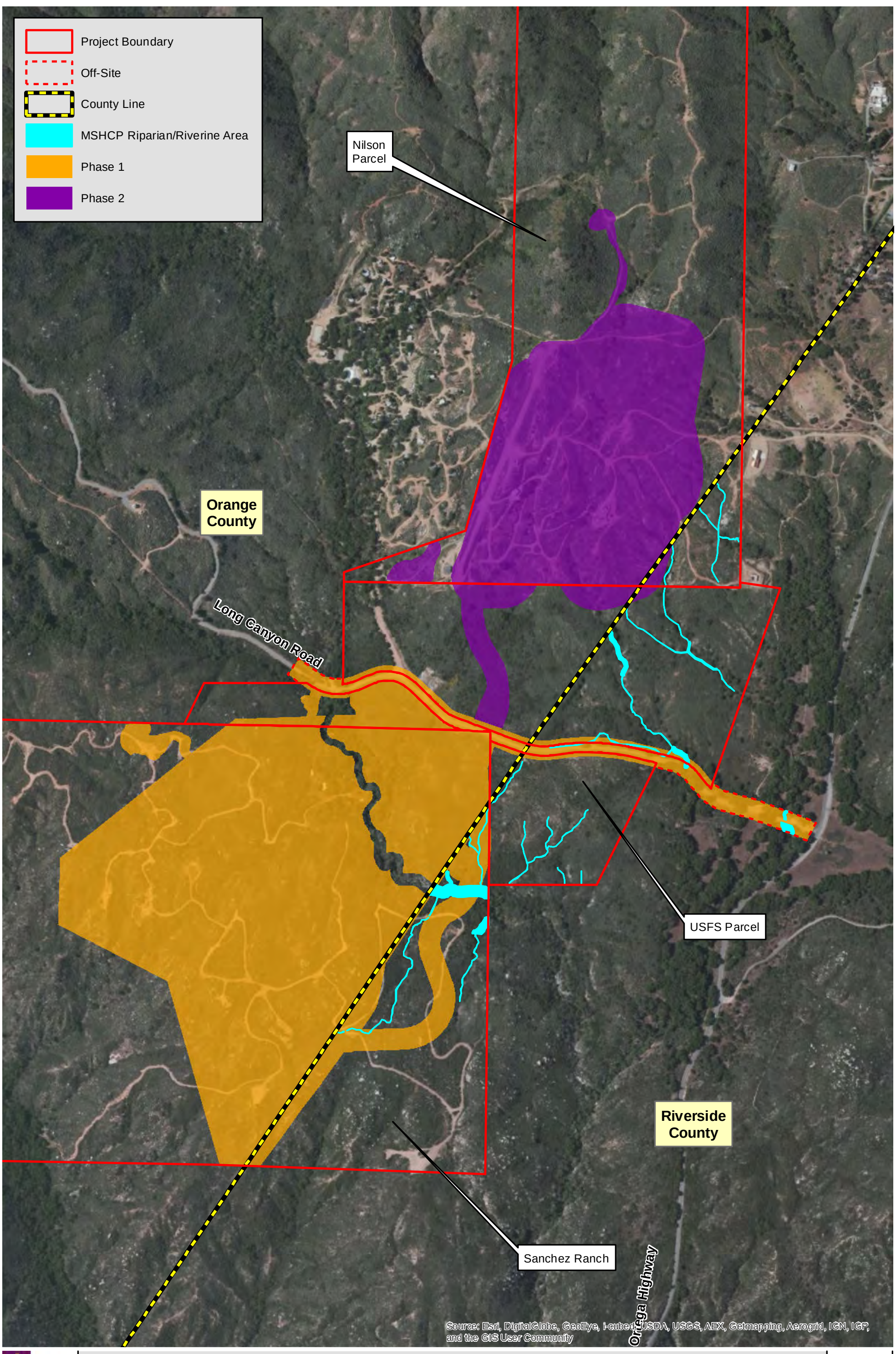
The study area is not within the Criteria Area Species, Amphibian Species, Burrowing Owl, or Mammal Species Survey Areas; therefore, surveys are not required and the proposed project is considered consistent with these portions of Section 6.3.2, *Additional Survey Needs and Procedures*, of the MSHCP.

4.6.6.5 Guidelines Pertaining to the Urban/Wildlands Interface (MSHCP Section 6.1.4)

The guidelines presented in Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface*, of the MSHCP are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. Development located in proximity to the MSHCP Conservation Area may result in edge effects that will adversely affect biological resources within the Conservation Area. Indirect impacts are considered to be those impacts associated with the project that involve the effects of alteration of the existing habitat and an increase in human population within the study area. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the study area. Indirect impacts include the effects of increases in ambient levels of sensory stimuli (e.g., noise and light), unnatural predators (e.g., domestic cats and other non-native animals), competitors (e.g., exotic plants and non-native animals), and trampling and unauthorized recreational use due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and storm water management, including trash/debris, toxic materials, and dust.

Indirect effects resulting from the proposed project may occur within the MSHCP Conservation Area if the following proposed project design features are not implemented. Therefore, to minimize indirect effects at the urban/wildlands interface, these project design features have been incorporated into the project design to ensure consistency with Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface*, of the MSHCP.

Drainage: The project will comply with all applicable water quality regulations, including obtaining a CWA Section 401 Water Quality Certification and complying with those conditions established by the San Diego RWQCB. The project design includes the use of infiltration and biotreatment BMPs (i.e., vegetated bioswales and infiltration basins) to treat storm water runoff, the implementation of applicable BMPs during construction activities, and the proper maintenance of these BMPs to ensure adequate long-term treatment



PCR

N

0 600 1,200 Feet

Impacts to MSHCP Riparian/Riverine Areas

The Preserve

Source: GLA, 2013; Robert Mitchell Associates, 2013; Microsoft, 2010 (Aerial); PCR Services Corporation, 2013.

FIGURE

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of water before entering into any stream course. The BMPs will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that might degrade or harm biological or aquatic resources to the maximum extent possible.

Toxics: Toxic sources within the study area would be limited to those commonly associated with residential development, such as bacteria, nutrients, sediments, trash and debris, oxygen demanding substances, metals, organic compounds, and oil and grease. In order to mitigate the potential effects of these residential toxics, the project will incorporate BMPs (e.g., vegetated bioswales and infiltration basins), as required in association with compliance with the CWA Section 401 Water Quality Certification, County of Orange, and/or County of Riverside in order to reduce the level of toxins introduced into the drainage system and the surrounding areas. Construction of the proposed project will incorporate erosion control measures (i.e., sand bags and/or straw wattles) around the perimeter of the development area to ensure all water leaving the site is filtered and an increase in siltation does not occur.

Lighting: Night lighting within the proposed development that is adjacent to the MSHCP Conservation Area or wildlife corridors would be directed away from the MSHCP Conservation Area or wildlife corridors. In addition, shielding shall be incorporated into the project design, as appropriate, in order to ensure that ambient lighting within an MSHCP Conservation Area or wildlife corridors is not increased.

Noise: Because the proposed project will not result in noise levels that exceed residential noise standards established for Riverside County, wildlife within an MSHCP Conservation Area will not be subject to noise that exceeds these established residential noise standards.

Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the study area.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors (e.g., wildlife corridors, avoided open space areas) nearest the study area during all project construction.
- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by County staff.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

Invasives: The landscape plans for the proposed project shall avoid the use of invasive species for the portions of the development areas adjacent to the MSHCP Conservation Area. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*. To the maximum extent practicable, the use of native plants in the landscape plans is recommended for the common areas of the project and homeowners should be educated against planting invasive plant species.

Barriers: In order to minimize indirect effects to wildlife and other resources being protected in an MSHCP Conservation Area from unauthorized public access, domestic animal predation, and illegal trespass or dumping, the proposed project will incorporate physical barriers including native landscaping, rocks/boulders, fencing, signage, and other appropriate barrier mechanisms, where appropriate (e.g., adjacent to open space areas and wildlife corridors).

5.0 MITIGATION MEASURES

5.1 APPROACH

Mitigation measures are recommended for those impacts determined to be significant to sensitive natural resources. Mitigation measures for impacts considered to be "significant" were developed in an effort to reduce such impacts to a level of "insignificance," while at the same time allowing the project proponent an opportunity to realize development goals. As stated in CEQA Section 15370 mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

5.2 MITIGATION MEASURES FOR SIGNIFICANT IMPACTS

The following mitigation measures address potentially significant impacts from implementation of the proposed project.

5.2.1 Measures to Mitigate Impacts to Sensitive Wildlife Species

To avoid direct impacts to the coast range newt for the proposed road crossing over Long Canyon Creek, a pre-construction survey shall be conducted within three days of proposed impacts by a qualified biologist. The impact area shall be surveyed and clearly marked by the project engineer so the biologist surveys the entire potential impact area.

If it is determined by the biologist during the pre-construction survey that impacts to the coast range newt may occur, all construction work related to the proposed road crossings shall be monitored by the biologist to ensure no impacts occur to the coast range newt. Coordination may be required with CDFW in association with regulatory permitting.

5.2.2 Measures to Mitigate Impacts to Sensitive Plant Communities

The proposed project would impact 12.3 acres of coast live oak woodland (10.2 acres on-site and 6.3 acres off-site). The proposed project would avoid 28.6 acres of coast live oak woodland and 4.4 acres of coast live oak forest. This represents a total of 73 percent preservation of the coast live oak habitats within the study area., and includes approximately 2,985 trees (93.7%) within Orange County and 348 trees (79.3%) within Riverside County, consisting primarily native coast live oaks.

In addition to the proposed preservation, mitigation measures to off-set impacts to coast live oak woodland and coast live oak forest shall include one (or a combination of) the following:

- Preservation of the 28.6 acres of preserved coast live oak woodland and 4.4 acres of coast live oak forest in perpetuity under a conservation easement, deed restriction, or other appropriate mechanism;
- Individual coast live oak trees within fuel modification zones, off-site impact areas, and temporary impact areas shall be protected and preserved in place to the maximum extent possible;
- Restoration of existing oak woodlands; and/or
- Planting of replacement trees at a 2:1 ratio and maintaining them for seven years pursuant to standard success criteria.

Within Orange County, the TMPP identifies approximately 45 acres of potential receiver sites available for mitigation planting. This includes 26.14 acres of restoration within preserved woodlands, as well as 1.22 acres along manufactured slopes (i.e., north, northeast, and east-facing slopes), 16.81 acres along roadsides, and 0.46 acre within Fuel Modification Zones C and D. In addition, planting of replacement trees will occur at a ratio exceeding 2:1, as detailed in Section 5.2.5 below.

Within Riverside County, the TMPP identifies approximately 7 acres of potential receiver sites available for mitigation planting. This includes 1.53 acres of restoration within preserved woodlands, as well as 2.60 acres along roadsides and 2.83 acres within Fuel Modification Zone D. In addition, planting of replacement trees will occur at a ratio exceeding 2:1, as detailed in Section 5.2.5 below.

Further details regarding oak woodland mitigation are available in **Appendix C**, *Tree Management and Preservation Plan* (Dudek 2013).

The proposed project would also impact less than 0.1 acre of southern willow scrub. Approximately 0.2 acre of southern willow scrub would be avoided by the proposed project. In addition to the proposed preservation, impacts to southern willow scrub shall be mitigated at a minimum ratio of 2:1, subject to approval of CDFW, and include one, or a combination of, the following:

- On-site creation, enhancement, or restoration;
- Off-site creation, enhancement, or restoration;
- Off-site acquisition and preservation;
- Purchase of credits at an agency-approved mitigation bank; and/or
- Payment into an in-lieu fee agreement.
- If creation, restoration, and/or enhancement is to occur on-site and/or off-site, a mitigation and monitoring plan shall be prepared. The plan shall focus on the mitigation of equivalent habitats within disturbed habitat areas of the study area and/or off-site (e.g., this may include, but is not limited to, removal of non-native and/or invasive species; salvage/dispersal of native duff and seed bank; transplantation, seeding, and/or planting/staking). In addition, the plan shall provide details as to the implementation of the plan, maintenance, and future monitoring.

5.2.3 Measures to Mitigate Impacts to Jurisdictional Features

Mitigation measures for impacts to jurisdictional features will be subject to the regulations set forth by the agencies. The USACE, RWQCB, and CDFW will require the project proponent to explore alternatives to reduce impacts and will require mitigation for all unavoidable impacts. Prior to the issuance of a grading permit for impacts to jurisdictional features, the project applicant shall obtain a CWA Section 404 permit from the USACE, a CWA Section 401 permit from the RWQCB, and Streambed Alteration Agreement permit under Section 1602 of the California Fish and Wildlife Code from the CDFW.

Impacts to jurisdictional features shall be mitigated at a minimum ratio of 1:1 for unvegetated streambed and a minimum ratio of 2:1 for riparian habitat and include one, or a combination of, the following, subject to approval by the regulatory agencies (USACE, RWQCB, and CDFW):

- On-site creation, enhancement, or restoration;
- Off-site creation, enhancement, or restoration;
- Off-site acquisition and preservation;
- Purchase of credits at an agency-approved mitigation bank; and/or
- Payment into an in-lieu fee agreement.

5.2.4 Measures to Mitigate Impacts to Nesting Birds

To mitigate impacts to nesting birds protected by the MBTA and State Fish and Game Code, vegetation removal activities shall be scheduled between September 1 and February 14 to avoid the nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly. If vegetation removal activities must be conducted during the nesting season (February 15 to August 31), then all suitable habitat shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist prior to removal. If any active nests are detected, the area shall be flagged, along with an appropriate buffer (buffer may range between 50 and 300 feet as determined by the monitoring biologist; however, buffers are typically 300 feet for songbirds and 500 feet for raptors), and shall be avoided until the nesting cycle is complete or it is determined by the monitoring biologist that the nest has failed.

5.2.5 Measures to Mitigate Impacts to Regulated Trees

The project preserves those trees that are being avoided by conservation easements and/or deed restrictions (i.e., approximately 2,985 trees (93.7%) within Orange County and 348 trees (79.3%) within Riverside County, consisting primarily native coast live oaks).

The project's Tree Management and Preservation Plan (TMPP) mitigation program will plant an appropriate number of trees to mitigate for trees impacted by the proposed project. The monitoring program specified in the TMPP includes intensive monitoring during the initial years after planting and then on-going monitoring by a qualified oak restoration specialist for seven years. Planting will include a combination of containerized plants and acorns/seedlings. It should be noted that planting acorns has long been considered the most simple, economical, and successful way of establishing healthy oak trees. They do not require long-term supplemental water (following watering for up to five years and during drought years and generally naturalize, outperform larger trees, and produce superior trees). Direct seeding of acorns is often

discouraged because growers expect poor germination rates and a high loss of planted acorns to rodents. These problems are minimized with careful selection and storage of acorns and the use of newly available, low-cost tree shelters to protect the seed and growing seedling in the ground. Proper seed handling methods have been shown in numerous settings to produce germination rates greater than 60th percentile. New technology, such as planting hole preparation, amendments, watering techniques, and protective cages, allows experienced restoration specialists to prepare a planting site to enhance the likelihood of successful germination and survival. The proposed mitigation program overplants acorns such that only a 30% success rate is necessary to achieve tree establishment goals.

Within Orange County, the project's TMPP proposes a minimum of 603 trees will be planted. This results in a 3:1 ratio of impacted-to-planted trees. Up to 2,000 acorns and/or seedlings will be planted within preserved woodlands. Additionally, an estimated 400 oaks and sycamores and additional trees will be planted in the landscape and outer fuel modification zones. The TMPP proposes an option to provide seedling protection for up to 500 existing seedlings (at the time of mitigation program implementation) in lieu of planting up to 500 acorns/seedlings in the preserved oak woodland areas. The total number of plantings under the proposed mitigation program is considered appropriate and sustainable at the site and guarantees a minimum of 3:1 replacement, with the possibility of up to 12:1 should all acorns/seedlings survive. However, the acorn planting success ratios cannot be precisely determined at this time. Conservative estimates of acorn establishment success result in a 30 to 75% success ratio for a project of this scale. At a 30% success ratio, the acorn/seedling planting totals 600 trees or roughly 3 replacement trees for every impacted oak tree. At 60% success of acorns/seedlings, the replacement-to-impacted ratio is approximately 6.9:1 for oak trees, which is significantly higher than the PRC 21083.4 ratio of 2:1.

Within Riverside County, the TMPP proposes a minimum of 250 trees will be planted. This results in a 2.5:1 ratio of planted to impacted trees in Riverside County. Up to 500 acorns and/or seedlings will be planted within roadside fuel modification zones or preserved oak woodlands along Long Canyon Road and an internal project access road in Riverside County. Additionally, an estimated 100 containerized trees (including 90 oaks and 10 sycamores) will be planted in the landscaping along both roads. The TMPP proposes an option to provide seedling protection for up to 250 existing seedlings (at the time of mitigation program implementation) in lieu of planting up to 250 acorns/seedlings in the preserved oak woodland areas. The total number of plantings under the proposed mitigation program is considered appropriate and sustainable at the site and guarantees a minimum of 2.5:1 replacement, with the possibility of up to 6:1 should all acorns/seedlings survive. However, the acorn planting success ratios cannot be precisely determined at this time. Conservative estimates of acorn establishment success result in a 30% to 75% success ratio for a project of this scale. At a 30% success ratio, the tree acorn/seedling planting totals 250 trees or roughly 2.5 replacement trees for every impacted oak tree. At 60% success of acorns/seedlings, the replacement-to-impacted ratio is approximately 4.4:1 for oak trees, which is significantly higher than the PRC 21083.4 ratio of 2:1.

Further details regarding tree mitigation are available in **Appendix C**, *Tree Management and Preservation Plan* (Dudek 2013).

5.2.6 Measures to Ensure Compliance with the MSHCP

Compliance with Section 6.1.2 of the MSHCP – Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

In accordance with Section 6.1.2 of the MSHCP, a Determination of Biologically Equivalent or Superior Preservation (DBESP) shall be conducted and submitted to the Environmental Programs Division (EPD). The DBESP shall include an analysis of alternatives that demonstrates efforts that first avoid, and then minimize direct and indirect effects to MSHCP Riparian/Riverine habitat. An avoidance alternative shall be selected, if feasible, and the project shall ensure the long-term conservation of the avoided Riparian/Riverine habitat through the use of deed restrictions, conservation easements, or other appropriate mechanisms.

If an avoidance alternative is not feasible, the DBESP shall include measures to ensure the replacement of any lost functions and values of Riparian/Riverine habitat. Riparian/Riverine habitat shall be mitigated at a minimum ratio of 1:1 for unvegetated/upland areas and 2:1 for areas supporting riparian vegetation. Measures shall include one, or a combination of, the following:

- On-site creation, enhancement, or restoration;
- Off-site creation, enhancement, or restoration;
- Off-site acquisition and preservation;
- Purchase of credits at an agency-approved mitigation bank; and/or
- Payment into an in-lieu fee agreement.

6.0 IMPACTS AFTER MITIGATION

6.1 UNAVOIDABLE SIGNIFICANT IMPACTS

The proposed projects, inclusive of project design features and mitigation measures will mitigate all significant adverse direct impacts to sensitive wildlife species, sensitive plant communities, jurisdictional features, nesting birds, regulated trees, and MSHCP consistency to a less than significant level. The proposed project will also comply with the MSHCP with the preparation of a DBESP for impacts to Riparian/Riverine Areas.

6.2 CUMULATIVE IMPACTS

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. CEQA deems a cumulative impact analysis to be adequate if a list of "related projects" is included in the EIR or the proposed project is consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(b)(1)(B)]. CEQA also states that no further cumulative impact analysis is necessary for impacts of a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(d)].

Although there have been preliminary discussions of a potential Phase 3 for The Preserve project, which would include additional development on the Riverside County portion of the study area, the potential for Phase 3 is still conceptual and no Notice of Preparation has been prepared to date. However, should Phase 3 of The Preserve come to fruition, the project would mitigate impacts to biological resources to less than significant levels, in a similar matter as the currently proposed project. As such, there would be no cumulatively considerable impacts to biological resources. At this time, there are no other known related projects that have been identified in the study area vicinity. Therefore, there are no known related projects that would contribute to a cumulative impact to identified biological resources. Moreover, any related project that may occur in the area in the future would be required, through the permit issuance process, to mitigate their respective impacts upon biological resources to less than significant levels. Furthermore, the MSHCP addresses cumulative impacts for western Riverside County. The MSHCP identifies areas for long-term conservation and management. As such, with MSHCP compliance, cumulative impacts of proposed projects within authorized take lands within the MSHCP are minimized through the conservation of land. Therefore, implementation of the proposed project, in conjunction with other past, present, or reasonably foreseeable future projects, would not result in a significant cumulative impact related to biological resources.

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Appendix A: Floral and Faunal Compendium

APPENDIX A:
FLORAL AND FAUNAL COMPENDIUM

FERNS AND FERN ALLIES

SCIENTIFIC NAME	COMMON NAME
Equisetaceae	**Horsetail Family**
Equisetum sp.	horsetail
Dennstaedtidaceae	**Bracken Fern Family**
Pteridium aquilinum	bracken fern
Dryopteridaceae	**Wood Fern Family**
Dryopterus arguta	coastal wood fern
Polypodiaceae	**Polypody Family**
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	slender woolly buckwheat
Polypodium californicum	California polypody
Pteridaceae	**Brake Family**
Adiantum jordanii	California maiden-hair
Pellaea andromedifolia	coffee fern
Pellaea mucronata	bird's-foot fern
Pentagramma triangularis	goldenback fern
Selaginellaceae	**Spike-Moss Family**
Selaginella bigelovii	Bigelow's spike-moss

GYMNOSPERMS

SCIENTIFIC NAME	COMMON NAME
Cupressaceae	**Cypress Family**
Calocedrus sp.	cedar
Juniperus sp.	juniper
Pinaceae	**Pine Family**
Pinus sp.	pine
Pinus coulteri	Coulter pine

* = *Non-Native Species*

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Adoxaceae	**Muskroot Family**
Sambucus nigra ssp. *caerulea*	blue elderberry
Agavaceae	**Century Plant Family**
Hesperoyucca whipplei	chaparral yucca
Amaranthaceae	**Amaranth Family**
Amaranthus albus	tumbleweed
Anacardiaceae	**Sumac or Cashew Family**
Malosma laurina	laurel sumac
Rhus integrifolia	lemonadeberry
Rhus ovata	sugar bush
Rhus trilobata	skunkbush
* *Schinus molle*	Peruvian peppertree
Toxicodendron diversilobum	poison oak
Apiaceae	**Carrot Family**
* *Apium graveolens*	celery
Daucus pusillus	rattlesnake weed
Lomatium utriculatum	common lomatium
Sanicula crassicaulis	Pacific sanicle
Tauschia arguta	southern umbrellawort
Apocynaceae	**Dogbane Family**
* *Vinca major*	greater periwinkle
Asteraceae	**Sunflower Family**
Achillea millefolium	common yarrow
Acourtia microcephala	sacapellote
Ambrosia acanthicarpa	flatspine bur ragweed
Ambrosia psilostachya	western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Baccharis pilularis	coyote brush
Baccharis salicifolia	mule fat
Brickellia californica	California brickellbush
* *Carduus pycnocephalus*	Italian thistle
* *Centaurea melitensis*	tocalote
* *Centaurea solstitialis*	yellow star-thistle
Corethrogyne filaginifolia	common sandaster
* *Chamomilla suaveolens*	pineapple weed
Chaenactis artemisiaefolia	white pincushion

* = *Non-Native Species*

ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Cirsium occidentale	cobweb thistle
*	*Cirsium vulgare*	bull thistle
	Conyza canadensis	horseweed
	Encelia californica	California encelia
	Erigeron foliosus	leafy daisy
	Eriophyllum confertiflorum	golden yarrow
	Euthamia occidentalis	western goldentop
	Filago californica	California filago
	Filago gallica	narrow-leaved filago
	Hazardia squarrosa	sawtooth goldenbush
	Helianthus annus	common sunflower
	Helianthus gracilentus	slender sunflower
	Hemizonia fasciculata	fasicled tarweed
	Heterotheca grandiflora	telegraph weed
*	*Hypochaeris glabra*	smooth cat's-ear
	Isocoma menziesii	coastal goldenbush
*	*Lactuca serriola*	prickly lettuce
	Lessingia filaginifolia	California-aster
	Microseris sp.	microseris
	Oncosiphon piluliferum	stinknet
*	*Picris echioides*	bristly ox-tongue
	Psilocarphus brevissimus	wooly marbles
	Pseudognaphalium bicolor	bicolored cudweed
	Pseudognaphalium californicum	California everlasting
	Pseudognaphalium canescens	Wright's cudweed
*	*Pseudognaphalium luteoalbum*	Jersey cudweed
	Pseudognaphalium stramineum	cottonbatting plant
	Senecio flaccidus	shrubby butterweed
	Solidago californica	California goldenrod
*	*Sonchus asper ssp. asper*	prickly sow thistle
*	*Sonchus oleraceus*	common sow thistle
	Stephanomeria virgata	tall wreath-plant
	Stylocline gnaphalioides	mountain neststraw
	Tetradymia comosa	cotton-thorn
	Uropappus lindleyi	silver puffs
	Venegasia carpesioides	canyon-sunflower
Boraginaceae		**Borage Family**
	Amsinckia menziesii	fiddleneck

* = *Non-Native Species*

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Cryptantha meziesii	Purple root cryptantha
Heliotropium curassavicum	salt heliotrope
Pectocarya linearis ssp. ferocula	slender pectocarya
Plagiobothrys sp.	popcorn flower
Brassicaceae	**Mustard Family**
* *Brassica nigra*	black mustard
* *Brassica tournefortii*	Sahara mustard
* *Capsella bursa-pastoris*	shepherd's purse
Cardamine californica	milk maids
* *Hirshfeldia incana*	shortpod mustard
* *Sisymbrium irio*	London rocket
* *Sisymbrium officinale*	hedgemustard
Cactaceae	**Cactus Family**
* *Echinocactus* sp.	ornamental cactus
Caprifoliaceae	**Honeysuckle Family**
Lonicera subspicata	southern honeysuckle
Symphoricarpos albus	common snowberry
Caryophyllaceae	**Pink Family**
Silene gallica	windmill pink
Silene laciniata ssp. *major*	Indian pink
* *Stellaria media*	common chickweed
Chenopodiaceae	**Goosefoot Family**
* *Atriplex semibaccata*	Australian saltbush
* *Chenopodium album*	lamb's quarters
* *Salsola tragus*	prickly Russian thistle
Cistaceae	**Rock-Rose Family**
Helianthemum scoparium	Bisbee Peak rush-rose
Convolvulaceae	**Morning-Glory Family**
Calystegia macrostegia	western bindweed
Crassulaceae	**Stonecrop Family**
Crassula connata	pygmy-weed
Dudleya lanceolata	lance-leaved dudleya
Dudleya pulverulenta	chalk dudleya
Cucurbitaceae	**Gourd Family**
Marah macrocarpus	wild cucumber
Cuscutaceae	**Dodder Family**
Cuscuta californica	California dodder

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ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Datiscaceae	**Datisca Family**
Datisca glomerata	Durango root
Ericaceae	**Heath Family**
Arctostaphylos glandulosa	Eastwood's manzanita
Arctostaphylos glauca	bigberry manzanita
Euphorbiaceae	**Spurge Family**
Chamaesyce maculata	spotted spurge
Euphorbia lathyris	caper spurge
Fabaceae	**Legume Family**
* *Acacia* sp.	acacia
Acmispon glaber var. *glaber*	deerweed
Hoita macrostachya	leather root
Lathyrus vestitus	wild sweet pea
Lotus argophyllus	silver lotus
Lotus heermannii	southern wooly lotus
Lotus purshianus	Spanish pea
Lotus strigosus	strigose lotus
Lupinus bicolor	miniature lupine
Lupinus hirsutissimus	stinging lupine
Lupinus sparsifolius	Coulter's lupine
Lupinus succulentus	arroyo lupine
* *Melilotus* sp.	sweet clover
* *Melilotus officinalis*	yellow sweet clover
* *Parkinsonia aculeata*	Mexican palo verde
Rupertia physodes	California tea
* *Spartium junceum*	Spanish broom
Trifolium ciliolatum	tree clover
Trifolium variegatum	white-tipped clover
Trifolium willdenovii	tomcat clover
Vicia villosa	winter vetch
Fagaceae	**Oak Family**
Quercus agrifolia	coast live oak
Quercus berberidifolia	scrub oak
Quercus chrysolepis	canyon live oak
Gentianaceae	**Gentian Family**
Centaurium venustum	canchalagua
Geraniaceae	**Geranium Family**
* *Erodium botrys*	longbeak stork's bill

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ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
* *Erodium cicutarium*	red-stemmed filaree
* *Erodium moschatum*	white-stemmed filaree
Grossulariaceae	**Gooseberry Family**
Ribes indecorum	white-flowered currant
Ribes malvaceum var. *viridifolium*	southern California currant
Hydrophyllaceae	**Waterleaf Family**
Emmenanthe penduliflora	whispering bells
Eriodictyon crassifolium	thick-leaved yerba santa
Eucrypta chrysanthemifolia	common eucrypta
Phacelia cicutaria	caterpillar phacelia
Phacelia davidsonii	Davidson's phacelia
Phacelia distans	fern-leaf phacelia
Phacelia minor	wild canterbury-bell
Lamiaceae	**Mint Family**
* *Marrubium vulgare*	horehound
Monardella lanceolata	mustang mint
Salvia apiana	white sage
Salvia columbariae	chia
Salvia leucophylla	purple sage
Salvia mellifera	black sage
Salvia spathecea	hummingbird sage
Stachys sp.	hedge-nettle
Stachys ajugoides	hedge-nettle
Trichostema lanceolatum	vinegarweed
Malvaceae	**Mallow Family**
Malacothamnus fasciculatus	chaparrel bushmallow
Sidalcea malvaeflora	checker mallow
Moraceae	**Mulberry Family**
* *Morus sp.*	mulberry
Myrtaceae	**Myrtle Family**
* *Eucalyptus sp.*	gum tree
Onagraceae	**Evening Primrose Family**
Camisonia bistorta	sun-cup
Camissonia micrantha	small primrose
Clarkia purpurea ssp. *quadrivulnera*	wine-cup clarka
Epilobium canum	California fuchsia
Epilobium densiflorum	dense-flowered boisduvalia
Epilobium sp.	willow herb

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ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Papaveraceae	**Poppy Family**
Dicentra chrysantha	golden ear-drops
Romneya coulteri	Coulter's matilija poppy
Paeoniaceae	**Peony Family**
Paeonia californica	California peony
Plataginaceae	**Plantain Family**
* *Plantago lanceolata*	English plantain
Platanaceae	**Sycamore Family**
Platanus racemosa	western sycamore
Polemoniaceae	**Phlox Family**
Eriastrum filifolium	eriastrum
Eriastrum sapphirinum	sapphire woolly-star
Gilia sp.	gilia
Leptodactylon californicum	prickly phlox
Navarretia hamata ssp. *leptantha*	southern hooked navarretia
Polygonaceae	**Buckwheat Family**
Chorizanthe fimbriata var. *fimbriata*	fringed spineflower
Chorizanthe staticoides	turkish rugging
Eriogonum fasciculatum	California buckwheat
* *Polygonum* sp.	knotweed
Pterostegia drymarioides	California thread-stem
Rumex crispus	curly dock
Rumex salicifolius	willow dock
Portulacaceae	**Purslane Family**
Calandrinia ciliata	red maids
Claytonia perfoliata	miner's lettuce
Primulaceae	**Primrose Family**
* *Anagallis arvensis*	scarlet pimpernel
Ranunculaceae	**Buttercup Family**
Clematis ligusticifolia	virgin's bower
Clematis pauciflora	ropevine
Delphinium cardinalis	scarlet larkspur
Delphinium parryi ssp. *parryi*	Parry's larkspur
Thalictrum fendleri	meadow-rue
Rhamnaceae	**Buckthorn Family**
Ceanothus crassifolius	hoary leaf ceanothus
Ceanothus oliganthus	hairy ceanothus

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ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Rhamnus ilicifolia	holly-leaf redberry
Rosaceae	**Rose Family**
Adenostoma fasciculatum	chamise
Cercocarpus betuloides	birch-leaf mountain-mahogany
* *Eriobotrys* sp.	loquat
Heteromeles arbutifolia	toyon
Potentilla glandulosa	common cinquefoil
Prunus ilicifolia	holly-leaved cherry
Rosa californica	California rose
Rubus ursinus	California blackberry
Rubiaceae	**Madder Family**
Galium angustifolium	bedstraw
* *Galium aparine*	goose grass
Rutaceae	**Orange Family**
* *Citrus* sp.	citrus
Salicaceae	**Willow Family**
Salix gooddingii	black willow
Salix lasiolepis	arroyo willow
Salix laevigata	red willow
Scrophulariaceae	**Figwort Family**
Antirrhinum nuttallianum	Nuttall's snapdragon
Castilleja foliolosa	woolly Indian paintbrush
Castilleja minor ssp. *spiralis*	California threadtorch
Cordylanthus rigidus ssp. *setigerus*	dark-tipped bird's beak
Keckiella cordifolia	heart-leaved penstemon
Mimulus aurantiacus	orange bush monkeyflower
Mimulus brevipes	slope semaphore
Mimulus cardinalis	scarlet monkeyflower
Mimulus guttatus	seep monkeyflower
Mimulus pilosus	downy monkeyflower
Scrophularia californica	California figwort
Veronica sp.	speedwell
Simaroubaceae	**Tree of Heaven Family**
* *Ailanthus altissima*	tree of heaven
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed
* *Nicotiana glauca*	tree tobacco
* *Solanum elaeagnifolium*	white horse-nettle

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ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Solanum xanti	chaparral nightshade
Tamaricaceae		**Tamarisk Family**
*	*Tamarix* sp.	tamarisk
*	*Tamarix ramosissima*	Mediterranean tamarisk
Viscaceae		**Mistletoe Family**
	Phoradendron macrophyllum	sycamore mistletoe
Vitaceae		**Grape Family**
	Vitis girdiana	wild grape

ANGIOSPERMS (MONOCOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
Cyperaceae		**Sedge Family**
	Carex spissa	San Diego sedge
	Carex triquetra	triangular-fruited sedge
*	*Cyperus deformis*	rice flatsedge
	Cyperus eragrostis	tall umbrella sedge
*	*Cyperus involucratus*	umbrella sedge
	Cyperus strigosus	false nutsedge
	Eleocharis palustris	pale spikerush
	Scirpus americanus	scirpus
	Scirpus californicus	California bulrush
	Scirpus microcarpus	small-fruited bulrush
Iridaceae		**Iris Family**
*	*Iris* sp.	ornamental iris
Juncaceae		**Rush Family**
	Juncus balticus	wire rush
	Juncus macrophyllus	long-leaved rush
Liliaceae		**Lily Family**
	Brodiaea terrestris	brodiaea
	Calochortus splendens	lilac mariposa lily
	Calochortus weedii var. *weedii*	Weed's mariposa lily
	Dichelostemma capitatum	blue dicks
Poaceae		**Grass Family**
	Achnatherum sp.	needlegrass
*	*Avena* sp.	oat species
*	*Avena barbata*	slender wild oat
*	*Bromus diandrus*	ripgut grass

* = *Non-Native Species*

ANGIOSPERMS (MONOCOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
*	*Bromus hordeaceus*	soft chess
*	*Bromus madritensis* ssp. *madritensiss*	foxtail chess
*	*Bromus madritensis* ssp. *rubens*	foxtail chess
*	*Bromus tectorum*	cheat grass
*	*Cortaderia selloana*	pampas grass
*	*Cynodon dactylon*	Bermuda grass
*	*Ehrharta erecta*	panic veldtgrass
	Elymus condensatus	giant wild rye
	Elymus glaucus	blue wildrye
*	*Gastridium ventricosum*	nit grass
*	*Hordeum murinum*	glaucous foxtail barley
*	*Lamarckia aurea*	goldentop
*	*Lolium multiflorum*	Italian ryegrass
	Melica imperfecta	coast range melic
	Muhlenbergia rigens	deergrass
*	*Phalaris sp.*	phalaris
*	*Piptatherum miliaceum*	smilo grass
	Poa secunda	Malpais bluegrass
*	*Polypogon monspeliensis*	annual beard grass
*	*Schismus barbatus*	Mediterranean schismus
	Stipa sp.	needlegrass
*	*Vulpia myuros*	rattail fescue
Typhaceae		**Cattail Family**
	Typha sp.	cattail

* = *Non-Native Species*

INVERTEBRATES

SCIENTIFIC NAME	COMMON NAME
Hesperidae	**Skippers**
Erynnis zarucco funeralis	funereal dusky wing
Hylephila phyleus	fiery skipper
Papilionidae	**Swallowtail Butterflies**
Papilio rutulus rutulus	western tiger swallowtail
Pieridae	**Whites, Sulphurs, and Orangetips**
Anthocharis sara sara	sara orangetip
Colias eurytheme	orange sulphur
Nymphalidae	**Brush-footed Butterflies**
Vanessa cardui	painted lady
Nymphalis antiopa	mourning cloak
Limenitis lorquini	Lorquin's admiral
Lycaenidae	**Metalmarks and Hairstreaks**
Apodemia mormo virgulti	Behr's metalmark
Callophrys affinis perplexa	green hairstreak
Plebejus acmon	Acmon blue
Satyrium californica	California hairstreak

AMPHIBIANS

SCIENTIFIC NAME	COMMON NAME
Salamandridae	**Newts**
Taricha torosa torosa	Coast Range newt
Bufonidae	**True Toads**
Anaxyrus boreas	western toad
Hylidae	**Tree Frogs**
Pseudacris cadaverina	California treefrog
Pseudacris regilla	Pacific treefrog

REPTILES

SCIENTIFIC NAME	COMMON NAME
Phrynosomatidae	**Zebra-tailed, Earless, Fringe-toed, Spiny, Tree,**
Sceloporus orcutti	granite spiny lizard
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
Phrynosoma coronatum	coast horned lizard

REPTILES

SCIENTIFIC NAME	COMMON NAME
Teiidae	**Whiptail Lizards**
Aspidoscelis tigris munda	California whiptail
Anguidae	**Alligator Lizards**
Elgaria multicarinatus webbi	San Diego alligator lizard
Boidae	**Boas**
Charina trivirgata roseofusca	coastal rosy boa
Colubridae	**Colubrid Snakes**
Masticophis lateralis lateralis	chaparral whipsnake
Viperidae	**Vipers**
Crotalus ruber ruber	northern red rattlesnake

BIRDS

SCIENTIFIC NAME	COMMON NAME
Anatidae	**Waterfowl**
Anas platyrhynchos	mallard
Cathartidae	**New World Vultures**
Cathartes aura	turkey vulture
Accipitridae	**Hawks**
Elanus leucurus	white-tailed kite
Circus cyaneus	northern harrier
Buteo lineatus	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk
Falconidae	**Falcons**
Falco sparverius	American kestrel
Odotophoridae	**Quails**
Callipepla californica	California quail
Oreortyx pictus	mountain quail
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Cuculidae	**Cuckoos and Roadrunners**
Geococcyx californianus	greater roadrunner
Trochilidae	**Hummingbirds**
Archilochus alexandri	black-chinned hummingbird
Calypte costae	Costa's hummingbird
Calypte anna	Anna's hummingbird
Picidae	**Woodpeckers**
Colaptes auratus	northern flicker

BIRDS

SCIENTIFIC NAME	COMMON NAME
Melanerpes formicivorus	acorn woodpecker
Picoides nuttallii	Nuttall's woodpecker
Tyrannidae	**Tyrant Flycatchers**
Empidonax difficilis	Pacific-slope flycatcher
Sayornis nigricans	black phoebe
Myiarchus cinerascens	ash-throated flycatcher
Tyrannus verticalis	western kingbird
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
Hirundo rustica	barn swallow
Vireonidae	**Vireos**
Vireo huttoni	Hutton's vireo
Corvidae	**Jays and Crows**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Muscicapidae	**Wrentits**
Chamaea fasciata	wrentit
Paridae	**Titmice**
Baeolophus inornatus	oak titmouse
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Troglodytes aedon	house wren
Thryomanes bewickii	Bewick's wren
Catherpes mexicanus	canyon wren
Sylviidae	**Old World Warblers, Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
Turdidae	**Thrushes**
Sialia mexicana	western bluebird
Mimidae	**Thrashers**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
Ptilogonatidae	**Silky Flycatchers**
Phainopepla nitens	phainopepla
Parulidae	**Wood Warblers**
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat

BIRDS

SCIENTIFIC NAME	COMMON NAME
Vermivora celata	orange-crowned warbler
Emberizidae	**Emberizids**
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
Spizella atrogularis	black-chinned sparrow
Cardinalidae	**Cardinals**
Pheucticus melanocephalus	black-headed grosbeak
Icteridae	**Blackbirds**
Molothrus ater	brown-headed cowbird
Fringillidae	**Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch

MAMMALS

SCIENTIFIC NAME	COMMON NAME
Leporidae	**Hares and Rabbits**
Lepus californicus bennettii	San Diego black-tailed jackrabbit
Sylvilagus audubonii	Audubon's cottontail
Rodentiae	**Rodents**
Neotoma lepida	desert woodrat
Thomomys bottae	Botta's pocket gopher
Sciuridae	**Squirrels**
Spermophilus beecheyi nesioticus	California ground squirrel
Sciurus griseus	western gray squirrel
Canidae	**Wolves and Foxes**
Canis latrans	coyote
Urocyon cinereoargenteus	gray fox
Procyonidae	**Raccoons**
Procyon lotor	raccoon
Felidae	**Cats**
Lynx rufus	bobcat
Cervidae	**Deer**
Odocoileus hemionus	mule deer

APPENDIX B: Jurisdictional Delineation

APPENDIX C: Tree Report

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