# 4. CALIFORNIA CONDOR

## 4.1 NATURAL HISTORY AND OCCURRENCE

The California condor (*Gymnogyps californianus*) is a member of the family Cathartidae or New World vultures, a family of seven species, including the closely related Andean condor (*Vultur gryphus*) and the sympatric turkey vulture (*Cathartes aura*). Although the family has traditionally been placed in the Order Falconiformes, most contemporary taxonomists believe that New World vultures are members of the Order Ciconiiformes, which includes bitterns, herons, egrets, ibises, and storks (Ligon 1967; Rea 1983; Sibley and Ahlquist 1990; AOU 2006).

California condors are among the largest flying birds in the world. It is the largest of the North America vultures as well as the largest soaring land bird on the North American continent. Adults weigh approximately 10 kilograms (22 pounds) and have a wing span up to 2.9 meters (9.6 feet). They are generally black, with prominent white underwing linings, and with naked skin on the head neck that ranges from gray to shades of yellow, red, and orange. Juveniles and subadults lack the distinct white wing linings and head colorations of adults. By the time individuals are 5 or 6 years of age, they have developed yellow to red heads and distinctive wing linings (Koford 1953; Wilbur 1975; Snyder et al. 1987), although full development of adult wing patterns may not be completed until 7 or 8 years of age (Snyder and Schmitt 2002).

### 4.1.1 NATURAL HISTORY

The following details of California condor life history are based largely on studies of the wild population prior to 1987, principally those of Carl Koford (1939–1947), Fred Sibley (1965–1969), Sanford Wilbur (1969–1980), and Noel Snyder and his associates (1980–1985). This information can be categorized into nesting, foraging, roosting, and movement components. Mapping of historical and current use of the Covered Lands by California condors is discussed in Section 4.1.5.

Much of the information on California condor biology in the following discussion is derived from the California Condor Recovery Plan (Recovery Plan) (USFWS 1996b). This discussion also incorporates more recent studies of the released populations of the California condor undertaken by Pete Bloom, a scientist with extensive expertise with wild and released California condors on the ranch, and a condor scientific advisory panel ("Condor Panel") that includes Dr. Robert W. Risebrough, a current member of the California Condor Recovery Team and director of the Bodega Bay Institute of Pollution Ecology, and Lloyd Kiff, a former leader of the California Condor Recovery Team.

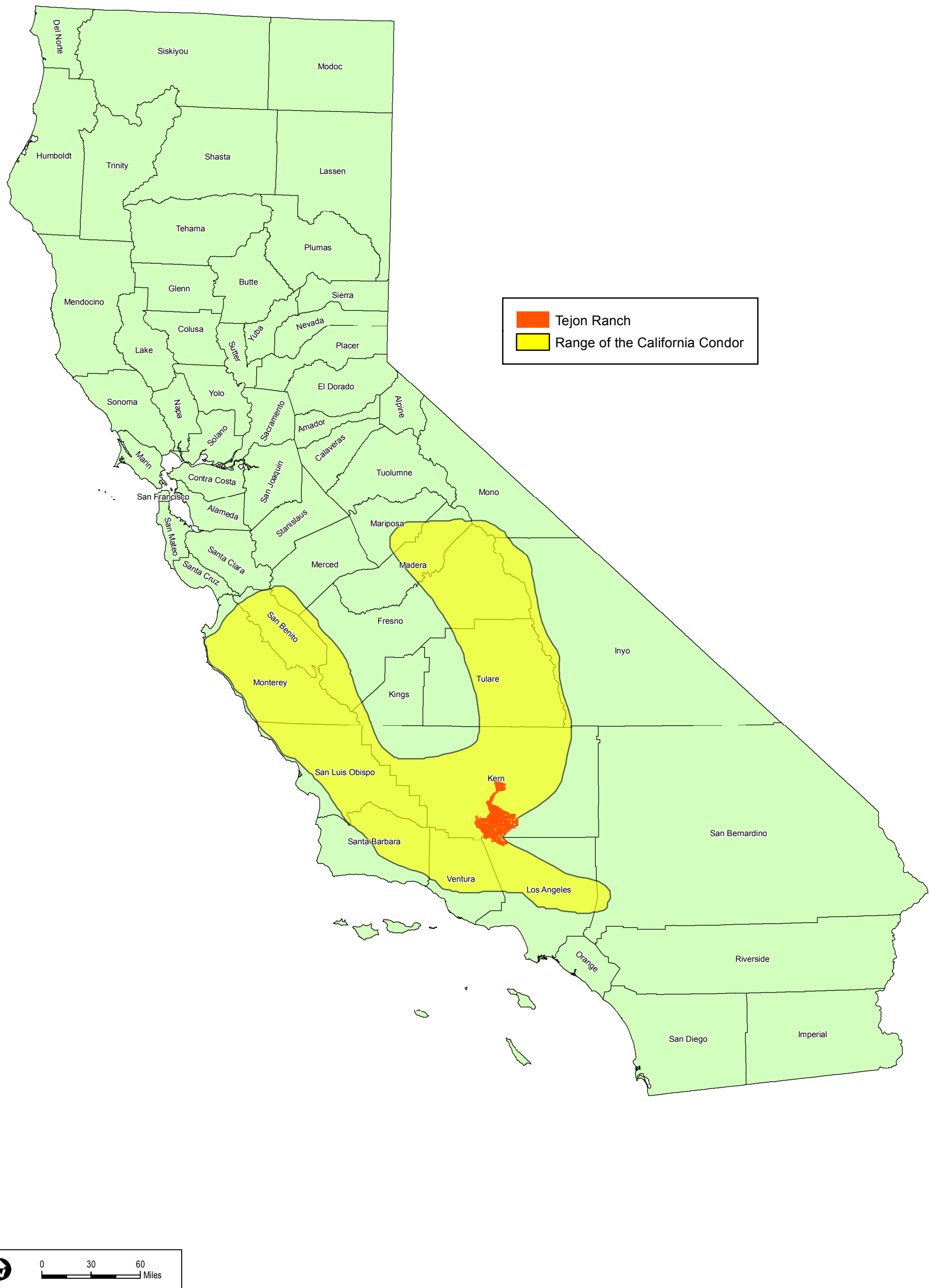
***Distribution***: Fossil evidence of the California condor is known from the late Pleistocene (40,000 years before present) and has been found throughout North America. The historical disappearance from most of its range may have been the result of the extinction of the terrestrial mammalian megafauna or depredation by Native Americans (Emslie 1987). In the early 19th

century, the species occurred in California; Oregon; Washington; southern British Columbia, Canada; and Baja California, Mexico. By the mid-20th century, California condors were largely confined to Southern California (Koford 1953; Wilbur 1978a).

California condors were historically found in habitat with requisite populations of ungulates and other large vertebrates (Koford 1953; Snyder and Snyder 2000; Grantham 2007a). As large scavengers, they are evolutionarily adapted for feeding on the carcasses of deer, elk, whales, mastodons, and other large animals (more than 20 kilograms or 44 pounds) more prevalent in the Pleistocene (Emslie 1987). As such, the availability of large dead prey was often unpredictable, leading condors to develop a wide-ranging search behavior. Foraging flights occurred, and continue to occur, over vast areas encompassing hundreds of linear miles of travel each day (Meretsky and Snyder 1992).

Both nest sites and roost sites are generally located in remote areas, such as the Los Padres National Forest in Ventura County. The foraging range for condors in California up until 1987 (when the last wild condor was trapped for captive breeding purposes) spanned a wishbone-shaped mountainous area that generally extended from the Coastal Range (San Benito and Monterey Counties in the north, to Ventura and Los Angeles Counties in the south), to the Transverse Range, including the Tehachapi Mountains of Kern and Los Angeles Counties, and the southern Sierra Nevada Range (Fresno and Madera Counties in the north through Tulare and Kern Counties in the south) (see *Figure 4-1, Historical Range of the California Condor in California*). Since the release of captive-bred condors beginning in the late 1990s, and based on analysis conducted by the U.S. Geological Survey (USGS) (Johnson et al. 2010) of condor use in Southern California from 2004 to 2009, condors have begun to use much of this historic range, though not as extensively into the southern Sierras as in the 1980s. See the "Movement" section below for a more thorough discussion of movement of released condors.

***Nesting:*** Researchers had once concluded that California condors did not reach sexual maturity until 6 years of age; however, it is now known that the birds may begin courtship behaviors as early as 4 years (USFWS 1996b). California condors are thought to be monogamous, maintaining stable pair bonds over a period of multiple years (Snyder and Schmitt 2002). Courtship and nest site selection by breeding California condors occur from December through the spring months. The female of a reproductively mature California condor pair normally lays a single egg between late January and early April. Pairs not attending a dependent fledgling from the previous year may attempt breeding annually, but pairs successfully rearing a young typically nest every 2 years (Snyder and Hamber 1985). The egg is incubated by both parents and hatches after approximately 56 days. Both parents share responsibilities for feeding the nestling. Feeding usually occurs daily for the first 2 months, and then gradually diminishes in frequency. At 2 to 3 months of age, the California condor chick leaves the actual nest cavity but remains in the vicinity of the nest, where it is fed by its parents. The chick takes its first flight at about 6 to 7 months of age but may not become fully independent of its parents until the following year. Parent birds occasionally feed a fledgling even after it has begun to make longer flights to foraging grounds.




SOURCE: USFWS 2004

**FIGURE 4-1**

**Historical Range of the California Condor in California**

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California condors nest in various types of rock formations, including crevices, overhung ledges, and potholes, and, more rarely, in cavities in giant sequoia trees (*Sequoiadendron giganteum*) (Snyder et al. 1986). An evaluation of various nest parameters, including types, elevations, compass orientation, entrance sizes, depths, chamber characteristics, substrates, use of nests by other species, accessibility to predators, presence of porches, and proximity to roost perches and sources of human disturbance, indicated that all surveyed California condor nest sites (72 in total) share the following characteristics: The nest cavity must have a ceiling height of at least 38 centimeters at the egg position and must have a fairly level floor with some loose surface substrate, and the area around the nest must be unobstructed for incubating adults and must be a short distance to an accessible landing point (Snyder et al. 1986).

Although apparently suitable California condor nesting habitat still exists over a relatively large portion of the coastal and interior mountains in central and Southern California, the occupied nesting range (prior to the start of the captive-breeding program) was quite limited. After 1910, all recorded nesting sites were located in the Coast, Transverse, and southern Sierra Nevada mountain ranges (Koford 1953; Meretsky and Snyder 1992). All but one of the nest sites used between 1979 and 1986 were in a narrow belt of chaparral and coniferous forested mountains from central Santa Barbara County across northern and central Ventura County to northwestern Los Angeles County. The sites were located within a total area approximately 90 kilometers (56 miles) from west to east and only about 25 kilometers (15 miles) from north to south. The only nest outside this area was located in a giant sequoia in Tulare County in 1984. It is possible that California condors may have been nesting in the latter area for many years, since the nest was only a few miles from another giant sequoia nest that was active in 1951. All recent California condor nest sites were located on public lands within the Los Padres, Angeles, and Sequoia National Forests.

***Foraging****:* California condors are obligate scavengers, feeding only on the carcasses of dead animals, primarily medium- to large-sized mammals. Typical foraging behavior includes long-distance reconnaissance flights, lengthy circling flights over a carcass, and hours of waiting at a roost or on the ground near a carcass. Seasonal foraging behavior shifts may result from changes in climatic conditions (e.g., fog, thermal activity, wind intensities, rain) or in response to changes in food availability. California condors maintain wide-ranging foraging patterns throughout the year, an important adaptation for a species that may be subjected to unpredictable food supplies and weather conditions (Meretsky and Snyder 1992). Prior to the arrival of European man, California condor food items within interior California probably included mule deer (*Odocoileus hemionus*), tule elk (*Cervus elaphus nannodes*), pronghorn antelope (*Antilocapra americana*), and smaller mammals. Along the Pacific shore, the diet of the California condor may have included whales, sea lions, and other marine species (Koford 1953; Emslie 1987; USFWS 1984a). Koford (1953) estimated that 95% of the California condor diet consisted of cattle, domestic sheep, ground squirrels (*Spermophilus beecheyi*), mule deer, and horses. Over half of the observations Koford (1953) reported were of California condors feeding on cattle carcasses, and most of those were

calves. California condors appear to feed only 1 to 3 days per week, but the frequency of adult feeding is variable and may show seasonal differences. Condors feed on decaying as well as fresh carcasses and are not known to feed on roadkills (Snyder and Schmitt 2002).

Most California condor foraging occurs in open terrain of foothill grassland and oak savannah habitats and occasionally in open scrub habitat. Although the California condor is not as ungainly on the ground as portrayed in popular literature, it does require fairly open spaces for feeding. This ensures easy take-off and approach and makes finding food easier. As mentioned above, mule deer are a normal food item, yet deer tend to drift toward canyon bottoms to die (Taber and Dasmann 1958), where steep terrain and brush may interfere with California condor foraging.

The principal foraging regions used by California condors from the late 1970s to 1987 were the foothills bordering the southern San Joaquin Valley and axillary valleys in San Luis Obispo, Santa Barbara, Kern, and Tulare Counties. After 1982, most observations of feeding by the small remaining wild population of California condors occurred in the Elkhorn Hills–Cuyama Valley–Carrizo Plain complex and in the foothills of the southern San Joaquin Valley (Meretsky and Snyder 1992). The majority of important foraging areas were on private cattle-grazing lands.

In Kern County, California condors foraged extensively in the foothills adjacent to the northern boundary of Los Padres National Forest, to Reyes Station in the west, to the Pleito Hills west of Interstate 5 (I-5), and eastward throughout much of the region from the Tehachapi Mountains (which include Tejon Ranch) north to the slopes of Cummings Mountain (Studer 1983). This entire region, like the similar foraging country in the Carrizo and Elkhorn Plains, is fairly close to traditional nesting sites (USFWS 1984a).

An important foraging area in Kern County was the foothill rangelands around Glennville. There, California condors roosted primarily on Sequoia National Forest lands in the Greenhorn Mountains and foraged daily in the Cedar Creek and upper Pozo Creek drainages as far west as Blue Mountain and the old Granite Station crossroads south of Woody, California. In Tulare County, California condors foraged extensively through the oak savannah and grassland hill country north from the Kern County border and west of the Sequoia National Forest boundary, including the Tule River Indian Reservation (USFWS 1984a). California condors recently foraged as far north as the Lake Kaweah region, with the White River, Deer Creek, Lake Success, and Yokohl Valley areas being of special importance (USFWS 1984a).

Although these foraging regions have been identified as important to California condors, they should not be considered as all-inclusive. Like most scavenging birds, California condors are opportunistic. During research on the wild birds prior to 1987, California condors were observed feeding on carcasses found in many locations. California condors were known to feed at U.S. Fish and Wildlife Service (USFWS) baiting stations on Tejon Ranch, the Beard Ranch in Glennville, and the Hopper Mountain and Bitter Creek National Wildlife Refuges. The birds may be expected to take advantage of local abundance of food almost anywhere within their normal

range (USFWS 1996b). However, after the mid-1980s, California condors were not reported in many areas of the foraging range they occupied in previous decades, especially north in the Coastal Range to Monterey and San Benito Counties, but also east into the San Gabriel Mountains in Los Angeles County.

The majority of breeding birds forage within 50 to 70 kilometers of their nesting areas, with core foraging areas ranging from 2,500 to 2,800 square kilometers. This wide-ranging foraging pattern may be an important adaptation to unpredictable food supplies (Meretsky and Snyder 1992). They are highly gregarious at feeding sites and somewhat gregarious when conducting foraging flights.

The use and extent of habitats and regions with respect to foraging by condors released into the wild is discussed under the "Movement" section below, as well as in the "Occurrence in the Covered Lands" discussion found in section 4.1.5.

Based on revised habitat modeling conducted by the USFWS for Tejon Ranch, USFWS has determined that the foothill grassland and oak savannahs of Tejon Ranch provide the easiest access to food, protection from predators, and lowest risk of injury during feeding. Based on reviews of extensive vegetation maps developed for this Tehachapi Uplands Multiple Species Habitat Conservation Plan (TU MSHCP) and ground-truthing of ranch vegetation community characteristics, USFWS determined the type and extent of habitat areas that are conducive to successful foraging and feeding on the ranch, given the presence of a consistent supply of carrion. The approach taken by USFWS in this determination is discussed in more detail in Section 4.2.2.2 below ("Loss of Foraging Habitat").

***Roosting**:* Depending on weather conditions and the hunger of the bird, a California condor may spend most of its time perched at a roost. California condors often use traditional roosting sites near important foraging grounds (USFWS 1984a). Although California condors usually remain at roosts until mid-morning, and generally return in mid- to late afternoon, it is not unusual for a bird to stay perched throughout the day. While at roosts, California condors devote considerable time to preening and other maintenance activities. Roosts may also serve some social function, as it is common for two or more California condors to roost together and to leave a roost together (USFWS 1984a). There may be adaptive as well as traditional reasons for California condors to continue to occupy a number of widely separated roosts, such as reducing food competition between breeding and non-breeding birds.

Cliff ledges, potholes, and tall conifers, including dead snags, are generally utilized as roost sites in nesting areas. Trees are more often used as night roosts near feeding areas. Although most roost sites are near nesting or foraging areas, scattered roost sites are located throughout the species' range.

***Movement***: Studies during the 1980s showed that the last California condors remaining in the wild prior to 1987 comprised a single population of birds occupying an area of approximately 2 million hectares (4,942,000 acres). Insofar as could be determined, every California condor in the wild used the entire area and was capable of soaring between any two points within the area in a single day. In addition to changes in climatic conditions, seasonal shifts that were noted seemed to be based generally on food availability. For example, California condors tended to move to the Tehachapi Mountains area during the hunting season when deer gut-piles and abandoned deer carcasses are more abundant. Furthermore, during the calving season in the San Emigdio area of the San Joaquin Valley foraging region, wild California condors were frequently observed feeding on calf carcasses.

Historical data on locations and movements of California condors are limited mainly to those collected between 1982 and 1987, as summarized by Meretsky and Snyder (1992). These data were obtained primarily from radio telemetry studies and the analysis of flight photographs of California condors, by which individual birds could be identified and tracked (Snyder and Johnson 1985; Meretsky and Snyder 1992). Additional data on the movements of GPS-tracked condors between 2002 and 2008 that was compiled and analyzed by Bloom Biological (Dudek 2009) has been superseded. For this TU MSHCP, additional data from 2009 through May 9, 2011, was collected and analyzed. In addition, USGS, in cooperation with USFWS, conducted an analysis of individual California condor use within six management units in Southern California (Hopper Mountain and Bitter Creek National Wildlife Refuges, Wind Wolves Preserve, and three units within Tejon Ranch), based on GPS location data from 2004 through 2009 (Johnson et al. 2010). Relative concentration of use estimates for each management unit for each condor (21 in total) was calculated on an annual basis. The USGS report represents the best available science with respect to relative use patterns by released condors from 2004 to 2009.

Specifically, from 2004 to 2007, the USGS report documented high amounts of condor use of both Hopper and Bitter Creek National Wildlife Refuge management units from the relatively low number of condors with GPS units (two to five) at the time. By 2008 and 2009, the 13–14 condors with GPS units exhibited a more "multimodal distribution," with use concentrated in the Hopper National Wildlife Refuge unit in the south, the Bitter Creek and Wind Wolves units in the northwest, and on the three Tejon Ranch units (Condor Study Area, Tejon Ranch, and Tejon Mountain Village [which equates to the TMV Planning Area]) in the northeast. The average likelihood of occurrence was highest in the Bitter Creek and Hopper National Wildlife Refuges in 2008, and on the Bitter Creek, Hopper, and Condor Study Area (on Tejon Ranch) management units in 2009. In addition, by 2009, every GPS-tagged condor's home range overlapped the three Tejon Ranch units. As noted in the USGS report, released condors appear to be recolonizing historic range areas in California and increasing use of Tejon Ranch. This pattern "… reestablishes traditional condor movement and foraging patterns in Southern California and provides the travel corridor … for recolonization of the northeastern part of the species' historical range" (Johnson et al. 2010, p.1).

The 2002–2008 dataset analyzed in the Draft TU MSHCP (Dudek 2009) is consistent with the results documented in the USGS report. The additional data (2008–2009) that was analyzed in the addendum to Appendix C in the Draft TU MSHCP (Dudek 2009), which was also included in the USGS dataset, was again consistent with the USGS report with respect to condor movements and use patterns within the Southern California region. Finally, the most recent GPS data from 2009 to 2011 included more than twice as many condors (34) with GPS transmitters in the Southern California population than was analyzed from 2002 to 2009 (anywhere from two to 14 condors). The 2009–2011 dataset also shows continuous consistent movement patterns with what was analyzed in the Draft TU MSHCP (Dudek 2009) and in the USGS report. The results of these additional analyses with respect to specific condor use of Tejon Ranch are discussed in Section 4.1.5. The recent analysis of GPS-tracked condors indicates that movement patterns tend to be highly influenced by food availability and nesting/roosting sites. As can be seen in *Figure 4-2, California Condor GPS Locations (Aerial and Ground) in Southern California, April 2002–May 9th, 2011*, the preponderance of points (all behavior groups including flying, perching, and roosting) for GPS-tracked birds from 2002 to 2011 are located on the Hopper Mountain and Bitter Creek National Wildlife Refuges and where historical and current nesting and roosting sites are located (Hopper National Wildlife Refuge), as well as where supplemental feeding stations are located to trap condor for health checkups and transmitter updates. A second area exhibiting high numbers of location points is the Wind Wolves Preserve, where supplemental feeding sites have been occasionally established and where Tule elk populations occur. Tejon Ranch also exhibits a high number of condor GPS location points, primarily associated with foraging and occasional overnight roosting related to hunting and grazing activities on the ranch (historical/traditional roost sites have been limited to the Tunis and Winters Ridge areas of Tejon Ranch, which are preserved as part of the Condor Study Area within the Covered Lands of this TU MSHCP); there are no nest sites on the ranch. *Figure 4-3, California Condor GPS Ground Locations in Southern California, April 2002–May 9, 2011*, depicts perch and roost locations from 2002 to 2011.

Generally, California condors use topography and associated thermal weather patterns for flight. This is best illustrated by observations indicating that almost all flights by California condors, whether covering long distances or not, followed routes over the foothills and mountains bordering the southern San Joaquin Valley but did not pass directly over the flat, highly agricultural floor of the valley. Thus, the usual route for a bird starting from the coastal mountains of Santa Barbara County on its way to foraging grounds in Tulare County was to cross northern Ventura County, pass through the Tehachapi Mountains in southern Kern County (in the vicinity of Tejon Ranch), then turn north to fly closely by Breckenridge Mountain, and enter Tulare County somewhere between the Greenhorn Mountains and Blue Mountain. Where flat, agricultural regions are much less extensive, such as the Cuyama Valley in Santa Barbara and San Luis Obispo Counties, California condors freely passed high above en route to foraging grounds. It has become apparent that California condors are highly dependent on topography, as it dictates prevailing wind patterns (USFWS 1984a).

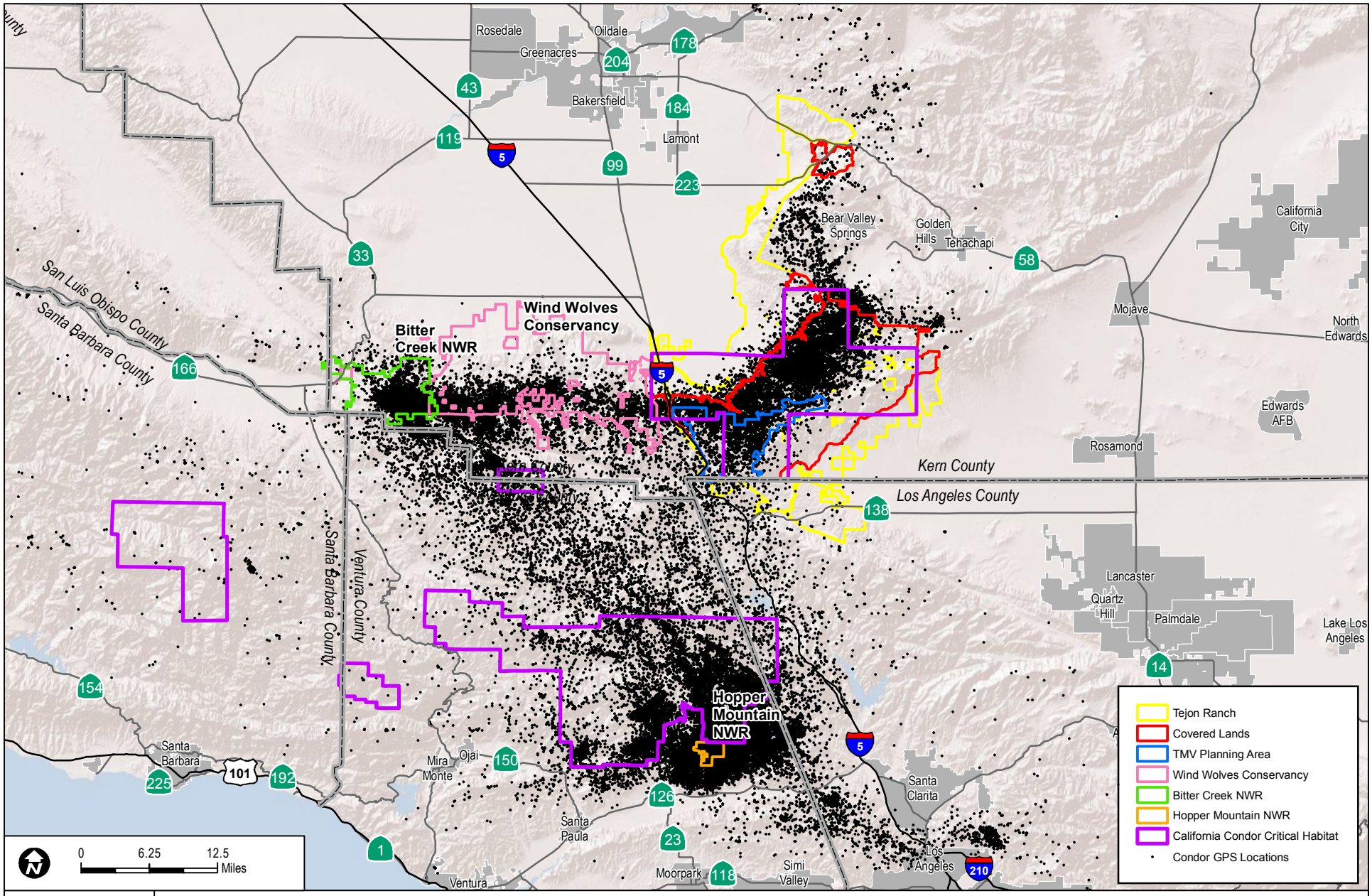
The free-flying condors in the Southern California subpopulation have been recorded flying over communities in the Tehachapi Mountains that have rural residential densities similar to or greater than that proposed for the TMV Project, including Pine Mountain Club and Frazier Park, Piñon Pines, Lake of the Woods, I-5, and even developed portions of Santa Clarita and the northern San Fernando Valley. The USGS condor study (Johnson et al. 2010) includes the utilization distribution maps for 21 individual condors and shows urbanized areas of Santa Clarita in the estimated home ranges of 16 individuals, and the communities of Frazier Park and Pine Mountain Club in the home ranges of 18 individuals. For example, a utilization distribution map from Appendix A of the USGS report shows a condor's estimated home range and high likelihood of occurrence locations, including the Condor Study Area on Tejon Ranch, Bitter Creek National Wildlife Refuge, Hopper National Wildlife Refuge, and the San Gabriel Mountains. This particular individual's home range encompasses highly urbanized areas in the Santa Clarita and San Fernando Valleys and communities with similar densities as approved in the TMV Specific Plan, such as the Frazier Park and Pine Mountain Club areas. The USGS condor study supports the conclusion that condors regularly fly over developed areas and that these areas, based on the GPS data, are part of their estimated home ranges. Such flyovers have resulted in no measurable ill effects with respect to continued condor use of historical and current foraging, roosting, and nesting areas, as evidenced by USFWS GPS tracking data. These data indicate increasing use of these habitat areas since 2002, when USFWS began to use GPS transmitters to track free-flying condors.

### 4.1.2 STATUS AND REGULATORY HISTORY

**Current Status and Critical Habitat**

The California condor was listed as an endangered species under Section 4 of the Federal Endangered Species Act (FESA) on March 11, 1967 (32 FR 4001). The species is listed as endangered under the California Endangered Species Act and is also a Fully Protected bird species under California Fish and Game Code Section 3511 (California Fish and Game Code 3511, et seq.).

Critical habitat for the California condor was designated 9 years later on September 24, 1976 (41 FR 41914–41916). Critical habitat is defined in Section 3(5) of FESA as the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical and biological features essential to the conservation of the species and which may require special management considerations or protections; and specific areas outside the geographical area occupied by the species at the time it is listed that are essential for the conservation of the species. According to FESA Section 7(a)(2), "each Federal agency shall in consultation with and with the assistance of the Secretary [of the Interior] insure that any action authorized, funded, or carried out by such agency ... is not likely to … result in the destruction or adverse modification of habitat of such species which is determined by the Secretary ... to be critical."




SOURCE: USFWS 2011; TRC 2007

**FIGURE 4-2**

**California Condor GPS Locations (Aerial and Ground) in Southern California, April 2002 - May 9th, 2011**

Final Tehachapi Uplands MSHCP

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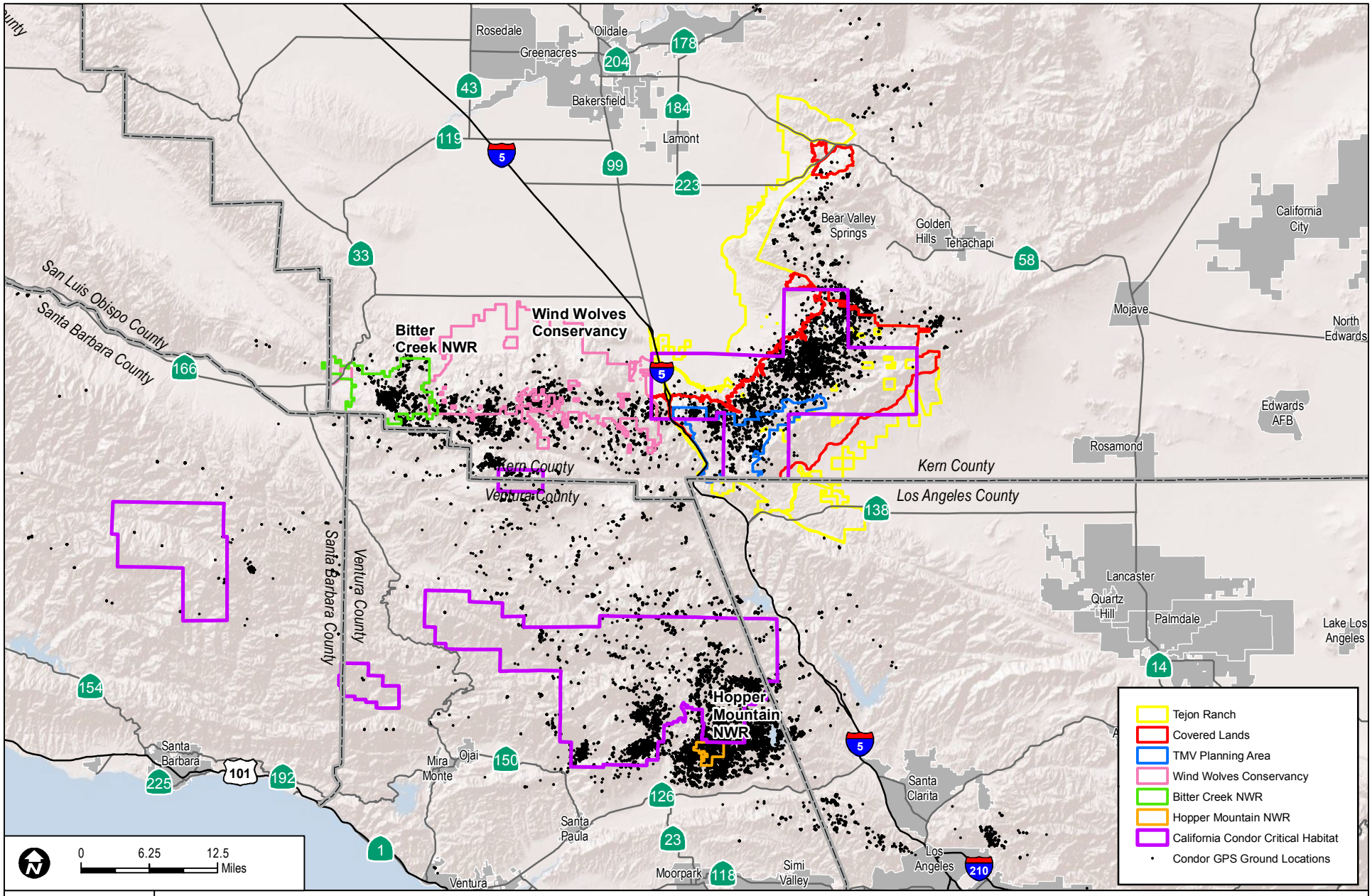


SOURCE: USFWS 2011
USFWS 2011 unpublished data
TRC 2007

**FIGURE 4-3**

**California Condor GPS Ground Locations in Southern California, April 2002 - May 9th, 2011**

Final Tehachapi Uplands MSHCP

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The designated critical habitat consists of nine critical habitat units scattered in the Counties of Tulare, San Luis Obispo, Ventura, Kern, Santa Barbara, and Los Angeles encompassing approximately 605,190 acres (41 FR 41914–41916) (see *Figure 4-4, California Condor Critical Habitat*). The designation predated the identification of "primary constituent elements" essential for the conservation of the listed species currently utilized by USFWS to make critical habitat designations. The 1976 designation identified the conservation values of the nine critical habitat areas according to their contributions to condor nesting, roosting, or foraging functions. The Sespe–Piru, Matilija, Sisquoc–San Rafael, and Hi Mountain–Beartrap habitat units were considered critical for nesting and related year-long activity. The Mt. Pinos and Blue Ridge Condor portions of the designation were considered critical for roosting. Tejon Ranch (within habitat unit #7), other Kern County rangelands, and Tulare County rangelands were considered important to condor feeding.

Tejon Ranch was considered to be important because it contained the only significant feeding habitat remaining in close proximity to the Sespe–Piru condor nesting area. Specifically, as provided for in the critical habitat designation promulgated by USFWS:

> With regard to the California condor, the Sespe-Piru, Matilija, Sisquoc-San Rafael, and Hi Mountain-Beartrap condor areas, as described below, are considered critical for nesting and related year-long activity. The Mt. Pinos and Blue Ridge condor areas, as described below, are considered critical for roosting. The Tejon Ranch, Kern County rangelands, and Tulare County rangelands, as described below, are considered critical for feeding and related activities (41 FR 41914).

The Tejon Ranch critical habitat unit is approximately 134,875 acres in size. Of this, approximately 127,774 acres occur within the boundaries of Tejon Ranch (inclusive of approximately 2,873 acres of private/commercial inholdings not owned by Tejon Ranchcorp [TRC]) and includes the entire 37,000-acre Condor Study Area (see *Figure 4-5, California Condor Critical Habitat within Tejon Ranch*). Approximately 95,068 acres (72%) of the designated critical habitat within Tejon Ranch are within Covered Lands and approximately 19,091 acres are within the TMV Planning Area boundary. USFWS's 1976 designation stated that the Tejon Ranch area primarily provides foraging functions that support condors nesting to the west in the designated Sespe–Piru Area.

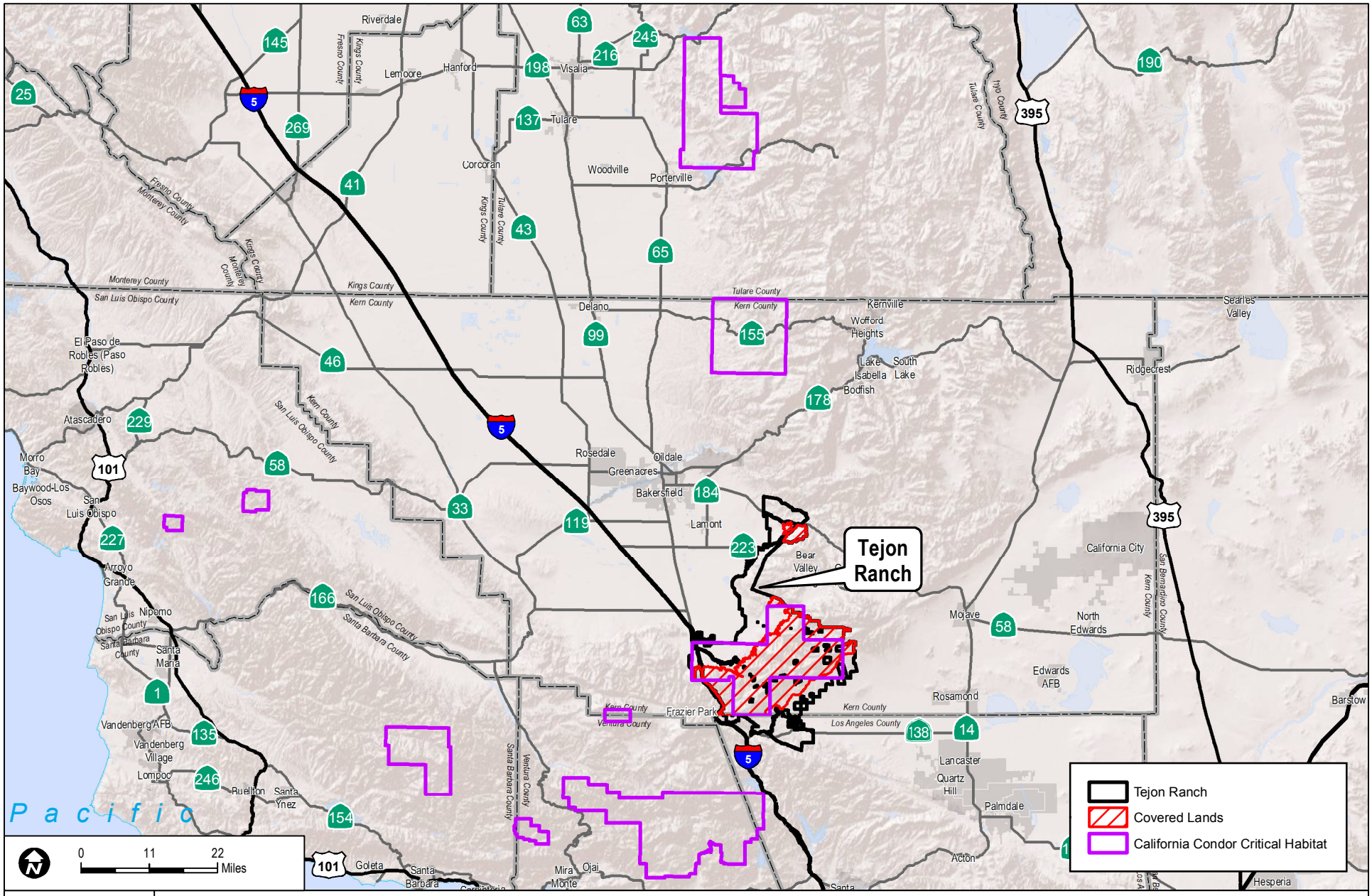
Tejon Ranch is important because it contains the only significant feeding habitat remaining in close proximity to the Sespe–Piru condor nesting area (41 FR 41914–41916). The designated critical habitat on the ranch is largely undeveloped and is principally subject to cattle grazing use. Private, commercial hunting occurs throughout the critical habitat area on a year-round

basis. Electrical and telecommunication towers, and certain other regional infrastructure facilities, currently also exist within the critical habitat boundaries.

Although recently released captive-hatched California condors have no historical bonds to these critical habitat areas (historical data indicates no nesting has ever occurred on Tejon Ranch), the areas contain habitat components known to contribute to the survival of wild California condors. Foraging activity, including opportunistic feeding by condors in transit from the southwest or northeast and by nesting condors or fledglings from the Sespe–Piru nesting area, has historically and continues to occur within the Tejon Ranch critical habitat area. In the past, condors were drawn to feeding and bait sites maintained by USFWS in the vicinity of the Tunis–Winters Ridge. In recent years, condors have been known to feed on pig and other hunting carcasses discarded by commercial hunters. Foraging activity within the Tejon Ranch critical habitat area is facilitated by the occurrence of open fields and low-density tree canopies that allow condors to spot carcasses from the air or to land and access carcasses that may be under tree canopies. Under these conditions, condors can more easily locate food sources than in areas in which tree canopies are heavier and open fields located along ridgelines are less prevalent.

Although the existing critical habitat designation may not meet current standards for designating such habitat, suitable foraging habitat, as determined by USFWS, does exist within the critical habitat boundaries within Covered Lands. As mentioned above, USFWS has further determined the extent of suitable foraging habitat to include areas supporting open grassland and savannahs as the vegetation types that most consistently provide foraging and feeding opportunities to condors. Based on this determination and the vegetation mapping of Tejon Ranch, USFWS was in turn able to determine the spatial extent of suitable foraging habitat for condors on the ranch, particularly within Covered Lands. For a more thorough discussion of the suitable foraging habitat model prepared by USFWS, including within designated critical habitat on the ranch, see Section 4.2.2.2 below.

Reintroduced California condors are expected to benefit significantly from use of the Tunis and Winters Ridge areas of Tejon Ranch (which is preserved as part of the Condor Study Area within the Covered Lands of this TU MSHCP) as well as other preserved habitat areas within Covered Lands. One historical roosting site is located on the northern face of the Tunis–Winters Ridge, approximately 5 miles from any of the proposed Development Activities. The TU MSHCP has been designed to continue to provide for and support condor feeding, foraging, and overflight activities within the ranch without regard to the precise boundaries of the large township blocks that have been used to designate critical habitat for this species.




SOURCE: USFWS 2011

**FIGURE 4-4**

## California Condor Critical Habitat

Final Tehachapi Uplands MSHCP

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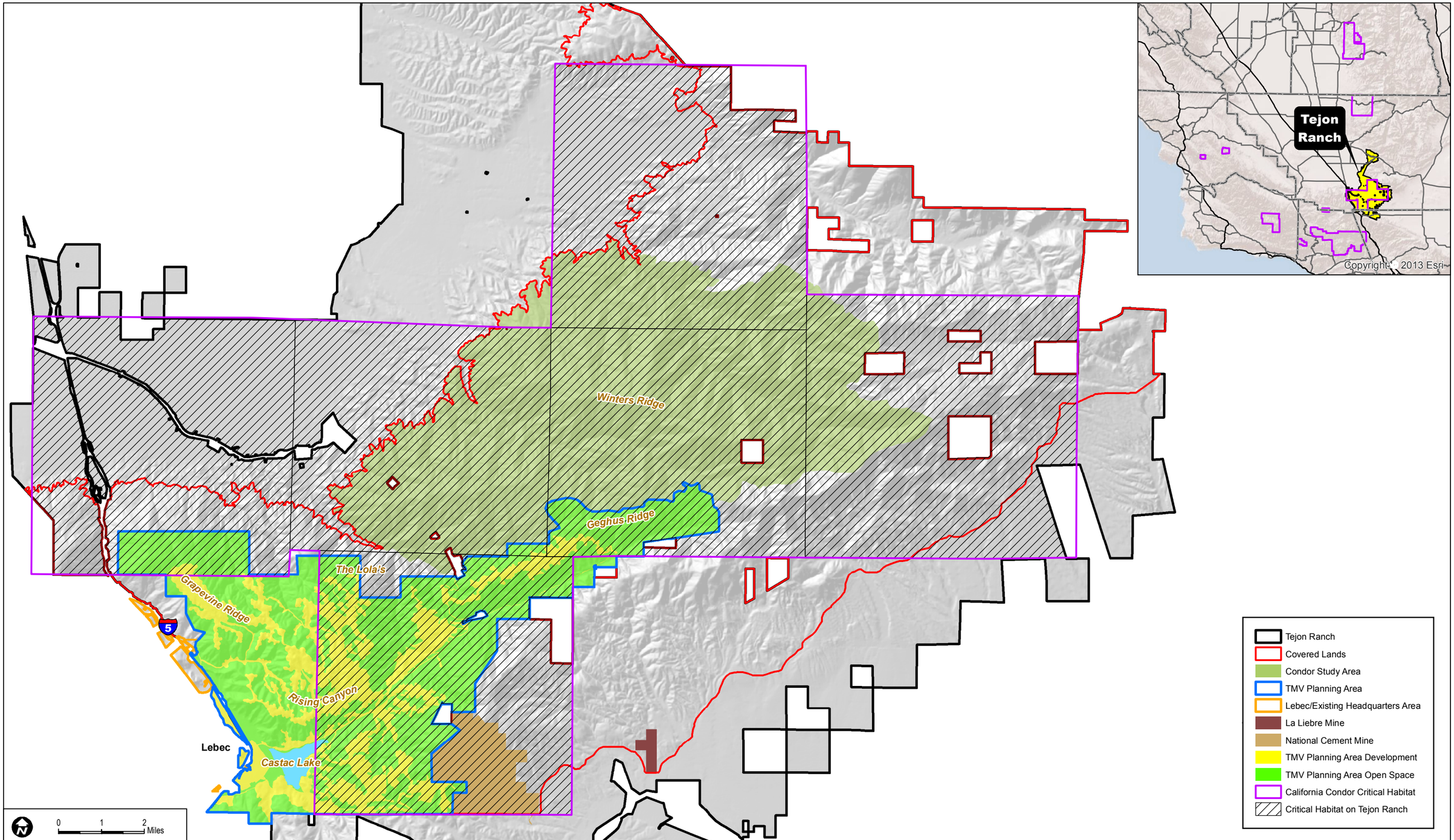


SOURCE: USFWS 2011
TRC 2007

**FIGURE 4-5**

**California Condor Critical Habitat within Tejon Ranch**

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As stated above, the ranch contains approximately 130,647 acres of critical habitat, of which 95,068 acres (72%) are within Covered Lands. The TMV Planning Area is located in the southwest corner of the Tejon Ranch portion of designated critical habitat (see *Figure 4-5*). Approximately 19,091 acres (14.5%) of the total amount of Tejon Ranch critical habitat area is located within the TMV Planning Area boundary, of which 13,718 acres is considered suitable foraging habitat. No suitable foraging habitat exists within the Lebec/Existing Headquarters Area. Impacts to critical habitat are discussed in Section 4.2.3, below.

**California Condor Recovery Plan**

The first California Condor Recovery Plan was approved in 1975 (USFWS 1974). It focused on the reduction of mortality factors through habitat conservation and other relatively non-invasive techniques (e.g., supplemental feeding) since, at that time, it was thought that habitat protection alone would halt the species' decline and prevent its extinction. The Recovery Plan was revised in 1979 (USFWS 1980) and this revision continued the emphasis on habitat conservation. However, as the status of the California condor in the wild continued to decline, it became clear to Federal and state agencies that more intensive management was needed. Consequently, in 1980 an accelerated California Condor Recovery Program was initiated by USFWS and the National Audubon Society involving a variety of intensive "hands-on" techniques, including trapping and radio telemetry, manipulation of wild nesting birds to induce multiple clutches, and a captive breeding program with the ultimate goal of returning captive-reared California condors to the wild. In 1984, the Recovery Plan was again revised (USFWS 1984a) to reflect the new emphasis on these techniques. However, when, by 1986, the California condor decline had continued nearly unabated and the wild population was down to fewer than 10 birds, USFWS and the California Department of Fish and Wildlife (CDFW) decided to remove all remaining wild California condors and place them into the captive breeding program. The last wild California condor was captured in April 1987, and the emphasis of California condor recovery effectively changed at that time from management of the original wild California condor population to captive-breeding and eventual reintroduction of captured and captive-reared birds.

The Recovery Plan was revised yet again in 1996 (USFWS 1996b) to reflect the new demands on the program presented by captive breeding, captive-rearing, and reintroduction to the wild. Reintroduction of captive-reared juvenile California condors began in 1992 and has continued since within the California condor's Southern California range, and has included release of wild birds captured prior to 1992. Captive-reared California condors have also been released into the species' historic range in the Grand Canyon in Arizona as an experimental non-essential population under Section 10(j) of FESA. The releases in Southern California, and subsequent use of Tejon Ranch by released birds as described below, prompted development of this TU MSHCP.

The recovery strategy for the California condor, as stated in the Recovery Plan (USFWS 1996b), focuses upon: (1) increasing reproduction in captivity to provide California condors for release; (2)

releasing California condors to the wild; (3) minimizing California condor mortality factors; (4) maintaining habitat for recovery of populations of the California condor; and (5) implementing California condor information and education programs. USFWS recognizes that reestablished California condor populations in some areas may require continued artificial feeding to supplement natural food resources and/or to protect birds from exposure to contaminated carcasses. The Recovery Plan states that nesting, roosting, and foraging (feeding) functions are the most crucial functions required to achieve and maintain the recovery of the California condor:

> California condors require suitable habitat for nesting, roosting, and foraging. The recent range was restricted to chaparral, coniferous forests, and oak savannah habitats in Southern and central California. The species formerly occurred more widely throughout the southwest and also fed on beaches and large rivers along the Pacific coast. Nest sites are located in cavities in cliffs, in large rock outcrops, or in large trees. Traditional roosting sites are maintained on cliffs or large trees, often near feeding sites. Foraging occurs mostly in grasslands, including potreros within chaparral areas, or in oak savannahs. At present, sufficient remaining habitat exists in California and in southwestern states to support a large number of condors, if density-independent mortality factors, including shooting, lead poisoning, and collisions with man-made objects, can be controlled (USFWS 1996b).

The Tejon Ranch critical habitat area is also discussed in Section 3 of the Recovery Plan, which observes that hunting activities within Tejon Ranch are beneficial to the condor because they provide food sources (carcasses), particularly during the fall months, which can support nesting populations in nearby areas. The Recovery Plan states that the completion of an agreement with the ranch to maintain uses that benefit the condor, such as hunting, is a conservation goal for the species:

> The Tejon Ranch was an important condor feeding area throughout the annual cycle, but especially in the fall, when there is a high intensity of deer hunting on the ranch. A plan should be prepared with the consent and participation of the affected landowner to maintain its value for condors (USFWS 1996b, Subsection 3325, p. 29).

The Recovery Plan also concluded, and current studies have again concluded, that:

> No condor nesting sites occur within the Tejon Ranch critical habitat area. One historical roosting site is located on the northern face of the Tunis–Winters Ridge, approximately [5] miles from

> any of the proposed TMV Project development activities (USFWS 1996b).

The Recovery Plan also noted the origins of what is now termed the Condor Study Area:

> Historically, condors were drawn to feeding and bait sites maintained by the USFWS in the vicinity of the Tunis–Winters Ridge. In recent years, condors have been known to feed on pig and other hunting carcasses discarded by commercial hunters. Foraging activity within the Tejon Ranch critical habitat area is facilitated by the occurrence of open fields and low-density tree canopies that allow condors to spot carcasses from the air. Under these conditions, condors can more easily locate food sources than in areas in which tree canopies are heavier and open fields along ridgelines less prevalent (USFWS 1996).

**Conservation and Management**

A Condor Recovery Team was formed in 1973 by USFWS to advise the Secretary of the Interior and to design continuing conservation actions for the condor. The team produced the California Condor Recovery Plan (discussed above), which was approved in 1975, with subsequent revisions in 1979, 1984, and 1996.

Despite decades of legal protection and extensive conservation efforts, California condors continued to decline in numbers in the wild throughout the 20th century. To prevent the extinction of the California condor, the decision to capture all remaining wild California condors for safekeeping and genetic security was made by USFWS and the California Fish and Game Commission in late 1985 and completed in 1987. This controversial decision was a dramatic shift from previous conservation efforts to recover the species primarily through habitat protection. It was also determined that captive-rearing was necessary to increase the stock of remaining California condors and to maximize genetic diversity among the new birds.

Following the initiation of captive breeding at the Los Angeles Zoo and San Diego Wild Animal Park, the first two releases of captive-bred California condors took place in the Sespe–Piru California condor critical habitat unit in 1992. The third and fourth releases were conducted approximately 8.1 kilometers (5 miles) north of the Sisquoc–San Rafael California condor critical habitat unit later the same year. Soon after, captive-reared condors were also released into the species' historical range near the Grand Canyon of Arizona as an "experimental nonessential population." By 1998, there were over 50 California condors in the wild. A release site has also been established recently in Baja California, Mexico.

Released California condors have attempted breeding at several locations in the southern Los Padres National Forest in Southern California. Several areas within Tejon Ranch and neighboring mountains function as important local foraging areas near the current primary range of breeding. All free-flying condors wear radio transmitters (many with GPS features) allowing tracking of foraging, roosting, and feeding locations.

Young birds that were initially released early in the program exhibited excessive attractions to humans and artificial structures, particularly power poles. Condors were observed raiding picnic coolers, perching on houses and aerials, and, in one instance, breaking into a summer cabin and ransacking the interior (Grantham, pers. comm. 2008). Acclimation potentially draws condors to areas in which human activities could inadvertently harm individual birds and can modify the species' behavior in the wild. Although condors are naturally curious and often fly near human activity areas, such as the visitor center in the Grand Canyon National Park, such habituation behavior can place the birds at risk of injury (e.g., ingestion of microtrash; collisions with transmission lines, as collisions with overhead wires have led to the loss of a small number of condors; and illegal shootings). The behavioral differences between the young condors that were initially released from the captive breeding program and those that hatched and fledged in the wild have been attributed to the lack of parents or of older, more experienced mentors (Grantham, pers. comm. 2008). Consequently, the earlier-released younger birds were much more tolerant of human presence and even were attracted to human structures, such as houses and decks. To address the behavior of perching on power poles, specific aversion training was conducted on captive condors, which has resulted in a reduction of this behavior (Grantham, pers. comm. 2008). In addition, in an effort to minimize the habituation of recently released condors to human structures (homes, buildings) and activity areas, captive husbandry techniques have been introduced to minimize this behavior. In particular, older, experienced mentor birds are routinely assigned to young condors not raised by their parents. This mentoring of younger, newly released birds has helped to significantly reduce the negative habituation behaviors previously observed in released condors (Grantham, pers. comm. 2008). The most promising results to date have been seen in the releases of parent-reared birds in the Ventana Wilderness Area. The parent-reared birds in the Ventana releases have shown fewer tendencies to approach people than has been seen in other releases. While the performance of these parent-reared birds does not match perfectly the behavior of wild-reared fledglings, the results strongly suggest that parent-rearing, even in zoo environments, can significantly reduce the human-oriented behavior of released birds. Snyder and Schmitt (2002) described the problems presented by the tendency of captive-bred California condors, once released, to become habituated to humans and human structures, and the efforts of USFWS and breeding facilities to remedy this problem.

As previously noted, an additional problem faced by released birds is lead contamination in hunter-killed carcasses. Consequently, supplemental feeding that ensured a food source free of lead and other contaminants was an integral component of the California condor release program during the first several years. However, because the lead ammunition ban provided by the

Ridley-Tree Condor Conservation Act and Tejon Ranch's voluntarily ban on lead ammunition within the condor's range in California is expected to contribute to reduced mortality rates resulting from lead poisoning, and because the now widely ranging foraging patterns of released condors precludes management (through supplemental feeding) by USFWS of condor foraging away from all potentially harmful food sources, including lead-contaminated carcasses, USFWS is no longer using supplemental feeding to the same degree. Currently, USFWS is using supplemental feeding only to facilitate trapping condors during biannual health checks, to replace and/or maintain radio and GPS transmitters, and as a food source for recently released, captive-bred juvenile condors that do not have parents to feed them.

**Tejon Ranch History**

TRC has a long history of assisting with efforts to save the California condor in the years prior to the species' removal from the wild in 1987. Before official protection efforts began, ranch managers provided warnings to hunters and other ranch visitors, and established rules and regulations for such persons admonishing them not to shoot large birds and not to engage in activities that put California condors at risk.

In cooperation with the National Audubon Society, TRC sponsored California condor and raptor censuses, allowing numerous volunteer observers at strategic locations on Tejon Ranch. Scientists studying the California condor used Tejon Ranch as their "laboratory," and Tejon Ranch was made available to USFWS and other persons interested in the species' recovery. Tejon Ranch staff assisted with efforts to locate and rescue injured or lost California condors. Some of the last California condors removed from the wild were taken at a capture site provided on Tejon Ranch.

### 4.1.3 POPULATION TRENDS

The fossil record shows that California condors once occupied much of the area that comprises the southern United States and into Mexico and British Columbia; however, coincident with the extinction of numerous large mammals, the species' distribution began to shrink. By the time of the arrival of Europeans in western North America, California condors occurred only in a narrow Pacific coastal strip from British Columbia, Canada, to Baja California Norte, Mexico (Koford 1953; Wilbur 1978a). California condors were observed until the mid-1800s in the northern portion of the Pacific coast region (Columbia River Gorge) and until the early 1930s in the southern extreme (northern Baja California) (Koford 1953; Wilbur 1973; Wilbur and Kiff 1980).

Despite intensive conservation efforts, the wild California condor population declined steadily until 1987, when the last free-flying California condors were captured. During the 1980s, captive California condor flocks were established at the San Diego Wild Animal Park and the Los Angeles Zoo, and the first successful captive breeding was accomplished at the former facility in

1988. Following several years of increasingly successful captive breeding, captive-produced California condors were first released back to the wild in early 1992.

California condor censusing through the years has varied in intensity and accuracy. This has led to conflicting estimates of historical abundance, but all such censuses and estimates have indicated an ever-declining California condor population. Koford (1953) estimated a population of about 60 individuals in the late 1930s through the mid-1940s, apparently based on observed flock size. A field study by Eben and McMillan in the early 1960s suggested a population of about 40 individuals, again based in part on the validity of Koford's estimates of flock size (Miller et al. 1965). In 1965, CDFW began an annual October California condor survey (Mallette and Borneman 1966), which continued for 16 years. This effort typically involved a 2-day simultaneous observation and count of California condors at prominent observation points in areas of known concentration. Interpretation of the results of these surveys was made difficult by variations from year to year in weather conditions, number of observers, and other factors, but the results supported an estimate of 50 to 60 California condors in the late 1960s (Sibley 1969). Wilbur (1980) continued the survey efforts into the 1970s and concurred with the interpretations of the earlier October surveys. He further estimated that by 1978 the population had dropped to 25 to 30 individuals.

Snyder and Johnson (1985) later reassessed the earlier California condor population estimates of Koford (1953) and Miller et al. (1965) and concluded that they may have underestimated the size of the population by a factor of two or three. Regardless of the actual number of birds, however, the trend toward extinction of the wild California condor population was linear and unrelenting. In 1981, USFWS, in cooperation with California Polytechnic State University, San Luis Obispo, began census efforts based on individual identifications of California condors by photographing flight silhouettes (Snyder and Johnson 1985). Minimum summer counts from these photocensusing efforts showed a steady decline from an estimated minimum of 21 wild California condors in 1982, to 19 individuals in 1983, 15 individuals in 1984, and nine individuals in 1985. Although the overall California condor population increased slightly after 1982 as a result of double clutching, the wild population continued to decline. By the end of 1986, all but two California condors had been captured and placed into the captive breeding program. On April 19, 1987, the last wild California condor was captured and taken to the San Diego Wild Animal Park.

Based on the successes of the captive breeding program, the ability of released condors to once again breed in the wild, and the increase in the numbers of captive condors being released, and notwithstanding the fact that mortality due to lead poisoning continues to occur with released birds, the population of California condors has been steadily increasing. As of November 30, 2011, there are 391 California condors in the world population, including 182 in captivity and 209 in the wild (USFWS 2011a). The wild population includes 113 in central and Southern California (40 in this sub-population); 23 birds in Baja California, Mexico; and 73 in Arizona.

### 4.1.4 REASONS FOR DECLINE AND ONGOING THREATS

Causes of the decline of the California condor population have probably been numerous and variable through time. Historically, relatively few dead California condors have been found, and definitive conclusions on the causes of death were made in only a small portion of these cases (Miller et al. 1965; Wilbur 1978a; Snyder and Snyder 1989).

Lead poisoning is thought to be a major cause of mortality that resulted in the decline of the California condor (Janssen et al. 1986; Bloom et al. 1989; Pattee et al. 1990; Snyder and Snyder 2000; Cade 2007; Grantham 2007b; Hall et al. 2007). Reintroduced birds also suffer from lead poisoning (Meretsky et al. 2000, 2001; Cade 2007; Grantham 2007b; Hall et al. 2007; Hunt et al. 2007; Sullivan et al. 2007; Woods et al. 2007). Lead poisoning is considered to be the most significant current cause of condor mortality (Grantham 2007a, 2007b; Hall et al. 2007).

High lead levels, presumably obtained from the ingestion of fragments of lead bullets in shot mammal carcasses, may be a pervasive problem throughout the historical foraging range of the California condor. For example, Bloom et al. (1989) and Pattee et al. (1990) found elevated levels of lead in one-third of 162 golden eagle blood samples taken in the range of the California condor in 1985 to 1986, and Wiemeyer et al. (1988) concluded that lead exposure was the major factor having an adverse impact on the wild California condor population from 1982 to 1986.

In spring 2007, TRC announced a total ban on the use of lead shot and bullets for hunting purposes on the ranch that took effect on January 1, 2008. In cooperation with USFWS, TRC also voluntarily implemented a 30-day ban on all hunting on the ranch from June 9, 2008, to July 9, 2008, as a result of reported elevated lead levels discovered by USFWS in the Southern California population of condors. California subsequently enacted the Ridley-Tree Condor Conservation Act, which banned the use of lead ammunition within the state range of the California condor effective July 1, 2008.

Microtrash, including small bits of plastic and metal such as bottle caps, pop-tops, PVC pipe fragments, and broken glass that are inadvertently fed to hatchlings by their parents, is an important factor affecting condor breeding success (Grantham 2007b; Mee et al. 2007). Because bone chips are a normal part of a growing condor's diet and provide an important source of calcium to mineralize growing bones, it is generally assumed that adult condors inadvertently feed bits of microtrash to young believing the hard pieces to be bone (Houston et al. 2007). Although the digestive systems of young condors might be well adapted to digesting bone fragments, they are not suited to handling plastic, metal, and glass. Other possible reasons for microtrash ingestion include aiding in the production of food pellets that contain other indigestible items, such as hair and horns from carcasses, and possibly as a mistaken source of short-term energy when carrion sources are scarce (Houston et al. 2007). Microtrash may come from several possible sources, including roadsides, camp sites, and scattered refuse piles.

Microtrash killed at least five wild-hatched California condor chicks between 2001 and 2006 (Mee et al. 2007).

As previously discussed, another challenge to recovery of the species is the potential for condors to be attracted to human activity and artificial structures. Maintaining California condors in the wild remains the principal conservation objective and will continue to require advances in training birds prior to release to avoid interactions with humans and artificial structures. Captive husbandry techniques have already been modified to reduce these effects, resulting in a substantial reduction of the negative habituation and acclimation behaviors previously observed in released condors (Grantham, pers. comm. 2008).

Other causes of mortality in reintroduced birds have included collisions with power lines, drowning, anti-freeze poisoning, and shootings. Aversion training methods have been applied that eventually led to reductions in the tendency of released condors to land on power poles (Grantham, pers. comm. 2008). Currently, the California Condor Recovery Team believes that lead poisoning, collisions with powerlines, microtrash, and shooting will remain the principal causes of California condor mortality as the species' population recovers.

### 4.1.5 OCCURRENCE IN THE COVERED LANDS

**Historical California Condor Use of the Ranch (1850–1987)**

California condors were observed almost continuously in the ranch area between 1850 and 1987 (Koford 1953). Since 1935, the number of California condors occurring in Kern County, or at least the size of flocks there, had shown some increase. As a natural connection between the coastal mountains habitat to the west in Ventura and Santa Barbara Counties to historical nesting and roosting areas in the southern Sierra Nevada, Tejon Ranch has always been considered part of the California condor's range in Kern County. Although prehistoric condors possibly made use of San Joaquin Valley floor habitat, California condors today appear to largely avoid the Central Valley floor for foraging, probably due to lack of thermal activity as well as food sources (limited hunting as a source of game animal carcasses, gut piles, etc.) (Koford 1953; Wilbur 1978a). Between 1982 and 1987, no condors with transmitters were known to cross the San Joaquin Valley.

Although most portions of the California condor foraging range received some use by the species throughout the year during the period of 1850 to 1987, the intensity of use varied seasonally in accord with patterns of food availability (Meretsky and Snyder 1992). The habits of individual California condors may also have played a role. The fall peak in California condor use of the Tehachapi Mountains zone, which includes portions of Tejon Ranch, appeared, at least in part, to be correlated with deer and other mammal hunting, with many records of condors feeding on deer gut piles or on deer carcasses. A flock of 43 California condors reported in November of 1947 by Perry Sprague was the largest group observed at Tejon Ranch. Antonio Aroujo, head

vaquero of the ranch for many years, believed that the number of California condors had increased there (Koford 1953) before the overall population declined.

In the mid-1980s, areas of Tejon Ranch within the Condor Study Area were used by the California Condor Recovery Team as supplemental feeding/baiting areas (see *Figure 4-6, Historical Sightings (through 1982) California Condor Use Data*). California condor trapping sites, where both pit traps and cannon netting were employed, were also located in these areas. Carcasses were placed in these areas for supplemental feeding, and after California condors were observed feeding and feeling comfortable in these areas, they were stocked with carcasses to facilitate trapping.

Tejon Ranch was historically a regular California condor foraging area. Most foraging occurred along the ridgelines and grasslands above the San Joaquin Valley floor, in the portion of Tejon Ranch described in this TU MSHCP as the Tunis and Winters Ridge area and the Tehachapi Mountain Uplands (see *Figure 1-4, Historical Range of the California Condor in California*). The ranch was also part of a major flyway for California condors moving between Ventura County and the Sierra foothills. In addition to foraging, California condors historically roosted on Winters Ridge, where patches of conifers occur in relatively undisturbed areas (USFWS 1974, 1984a). California condors did not frequent the southern slopes of the Tehachapi Mountains, perhaps because of the predominantly downslope wind patterns that are not conducive to their flight or because of limited carcass availability. The Antelope Valley floor to the south experienced very little use by California condors.

**Recent Use of Tejon Ranch by California Condors (1992–Present)**

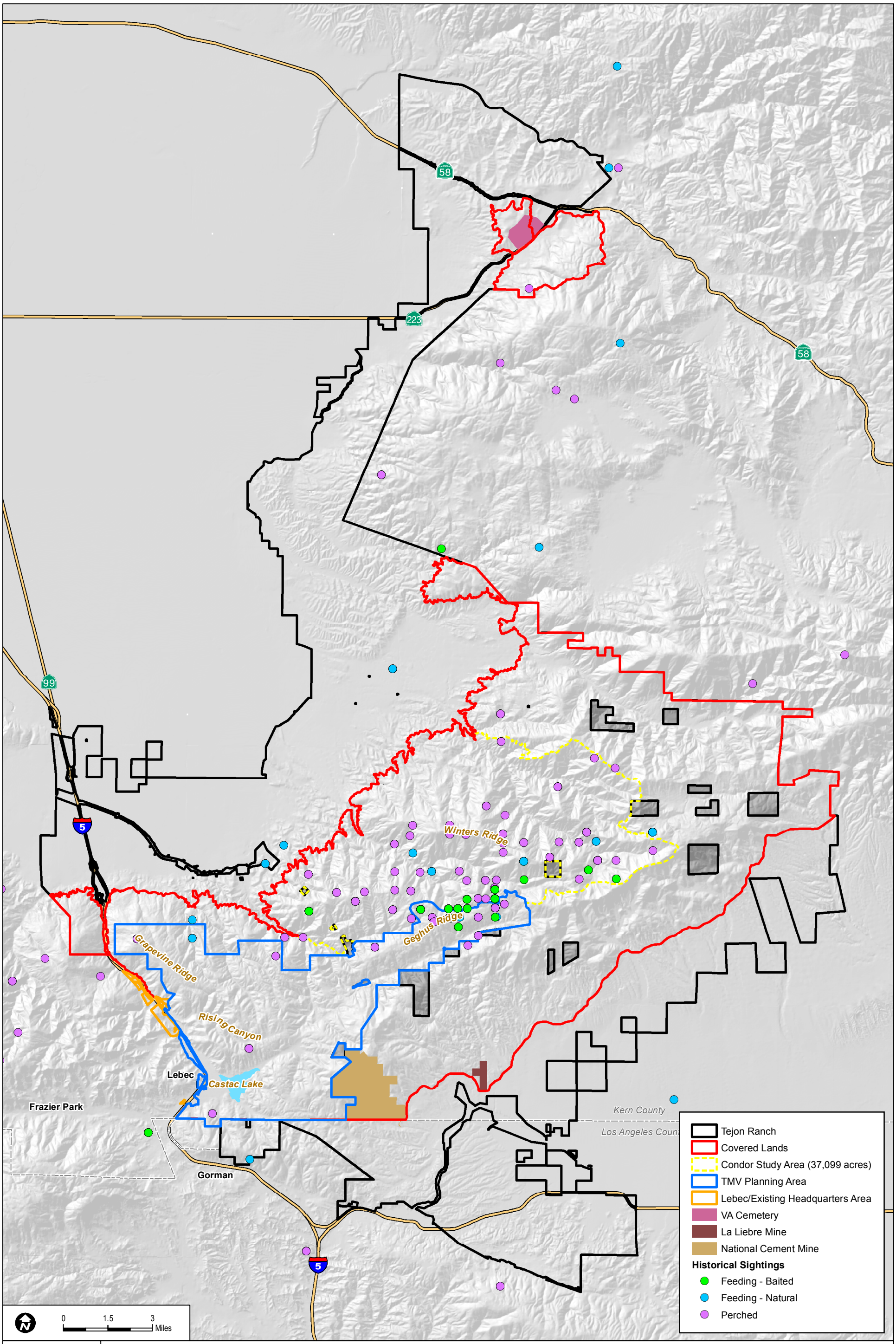
Flights by reintroduced California condors into the Tehachapi Mountains of the ranch and into the southern Sierra Nevada Mountains have occurred since 1996 (USFWS 2002a). From areas adjacent to the ranch, the California Condor Recovery Team has detected telemetry signals indicating that reintroduced California condors were using portions of the ranch. The first time signals were received from reintroduced California condors at the ranch was in late May 1996. California condor use of the ranch has continued and increased since 1996, primarily in the Condor Study Area. In 1998, the California Condor Recovery Team observed California condors using Stallion Springs in the Tehachapi Mountains. The birds would leave this area and fly to the ranch, then after a few hours would return to Stallion Springs with full crops.

While condors utilize various areas within the ranch, the predominant use was historically noted to occur within the Condor Study Area where a historical roost site (Winters Ridge) occurs and in which much of the hunting on the ranch occurred and continues to occur (see *Figure 4-6*). However, beginning in early to mid-2008, and as described in the USGS report, more condors were being released into the wild by 2008 and condor use of the ranch expanded, although the Condor Study Area continued to receive much of the use by condors at that time (see *Figure 4-7, California Condor GPS Locations (Aerial and Ground) in Southern California, January 1,*

*2008–August 31, 2009*). According to the USGS report, the Condor Study Area was among the three land area units (along with Hopper and Bitter Creek) that received the highest "average likelihood of occurrence" by condors in 2009 and had a higher average likelihood of occurrence than the two other Tejon Ranch land area units. The availability of feral pig carcasses due to increasing year-round pig eradication activities throughout the ranch, as well as continued ranching and hunting activities, may also have contributed to this increased use on the ranch.

As evidenced by the 2010–2011 GPS dataset, additional areas of the ranch continue to be utilized by condors, with a large amount of the use noted as still occurring within the Condor Study Area (see *Figure 4-8, California Condor GPS Locations (Aerial and Ground) in Southern California, January 1st, 2010–May 9, 2011*). As noted in the USGS report, an increasing number of released condors appear to be recolonizing former areas of their historic range; are nesting, roosting, and foraging in the same relative historic locations; and are reestablishing traditional movement and foraging patterns in Southern California.

On Tejon Ranch, condors feed on both hunter-killed mammals and naturally deceased livestock. In particular, because the hunting of wild pigs essentially occurs year-round, gut piles and discarded carcasses of pigs, as well as other hunted animals, serve as primary attractants to condors on the ranch. No condors have attempted to nest within Tejon Ranch or anywhere within the Tehachapi Mountains, likely due to the relative lack of suitable nesting habitat in this area. In addition, no historical, traditional roost sites occur within the TMV Planning Area. The only known traditional condor roost site is located on the northeast face of Winters Ridge, within the Condor Study Area.




SOURCE: USFWS 2011

**FIGURE 4-6**

**Historical Sightings (through 1982) California Condor Use Data**

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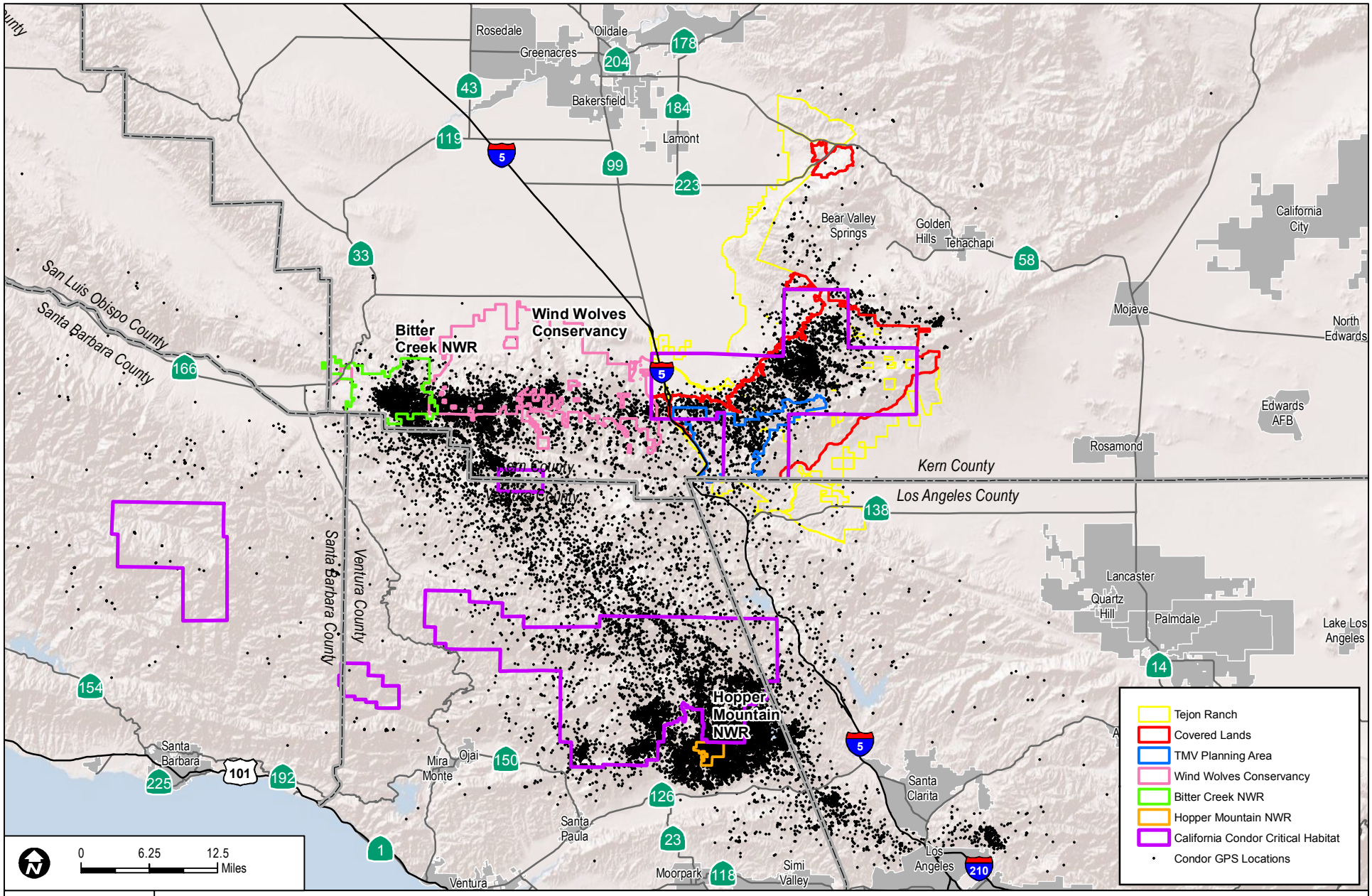


SOURCE: USFWS 2011; TRC 2007

**FIGURE 4-7**

**California Condor GPS Locations (Aerial and Ground) in Southern California, January 1st, 2008 - August 31st, 2009**

Final Tehachapi Uplands MSHCP

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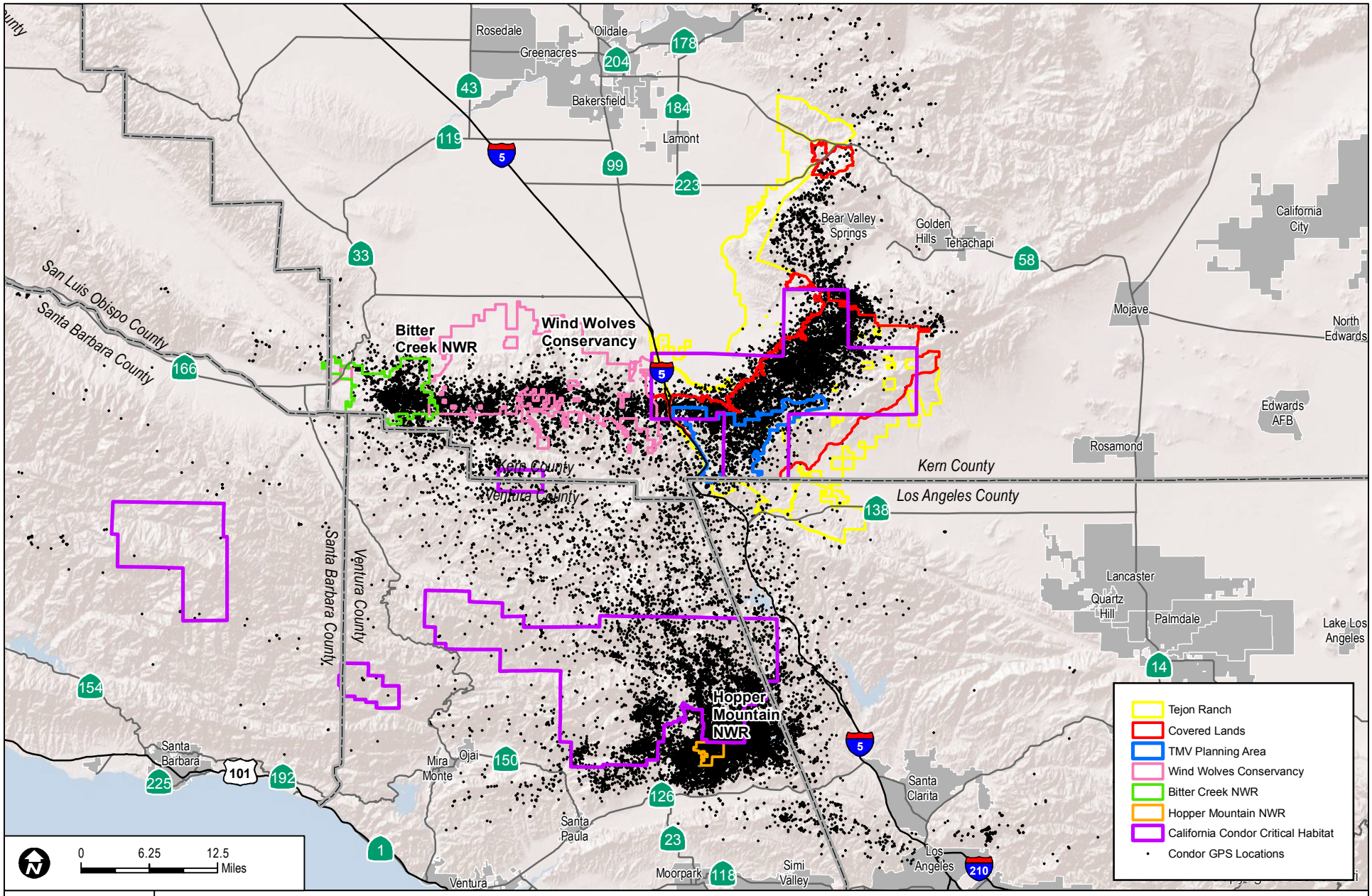


SOURCE: USFWS 2011; USFWS 2011 unpublished data; TRC 2007

**FIGURE 4-8**

**California Condor GPS Locations (Aerial and Ground) in Southern California, January 1st, 2010 - May 9th, 2011**

Final Tehachapi Uplands MSHCP

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## 4.2 POTENTIAL BIOLOGICAL IMPACTS/TAKE ASSESSMENT

In assessing the potential effects of the Covered Activities on the California condor, USFWS looked at (and advised TRC of) those factors that contributed to the species' decline and those factors that have become evident since California condors were re-released into the wild in 1992 to determine if and to what extent any of those factors may result from the Covered Activities. Because few dead California condors have been found, definitive conclusions about the causes of death have been difficult to make. However, as previously noted, the California Condor Recovery Team believes that collisions with powerlines, lead poisoning, ingestion of microtrash, and shooting will remain the principal causes of injury and mortality as the species recovers. In discussing the preparation of the TU MSHCP with USFWS, TRC took into account these potential mortality factors, and other factors potentially affecting the California condor, such as habitat loss. The objective of USFWS was to assist TRC with defining boundaries (topographic and activity-related) within which the effects of the proposed Covered Activities on California condors would be avoided or minimized.

In addition to working with USFWS, TRC worked with three California condor experts, Mr. Peter Bloom, Dr. Robert Risebrough, and Mr. Lloyd Kiff, who were retained to study California condor occurrences and threats, particularly related to the proposed TMV Project, which is the primary Covered Activity potentially affecting California condors. Mr. Bloom personally trapped and marked all of the original wild free-flying California condors or brought them directly into captivity. While working for the National Audubon Society, he also conducted extensive ethological observations in the field, including on Tejon Ranch, on behalf of CDFW and USFWS (including the California Condor Recovery Program). Dr. Risebrough is a current member of the California Condor Recovery Team and director of the Bodega Bay Institute of Pollution Ecology. Dr. Risebrough is an acknowledged expert on contaminant ecology with particular expertise on mortality and diseases of condors caused by ingestion of, or exposure to, various contaminants. Mr. Kiff has over 30 years of experience working with the conservation of the California condor on behalf of CDFW and USFWS, including the California Condor Recovery Team. Mr. Kiff is a former member and past Chairman of the California Condor Recovery Team. Through review of proposed development plans and USFWS historical and current data on condor movements, and from field visits to Tejon Ranch, all three assessed the extent to which the TMV Project could adversely impact condors, and identified a range of development design elements and management measures to avoid, minimize, and/or mitigate identified impacts, which have influenced the measures incorporated in this TU MSHCP.

### 4.2.1 IMPACTS ON CALIFORNIA CONDOR

#### 4.2.1.1 PLAN-WIDE ACTIVITIES

This section addresses potential impacts on California condors posed by covered Plan-Wide Activities described in *Section 2*, *Plan Description and Activities Covered by Permit*:

(1) Livestock grazing and range management activities:

Livestock grazing and range management activities have been a part of ranchwide activities for many decades. Current and future livestock grazing and related range management activities on the Covered Lands are expected to have continuing positive effects on California condors. These activities have been acknowledged to be beneficial to California condors because they provide a necessary source of carrion for condors to feed on (USFWS 1974, 1996b; Wilbur 1978b). The continuation of these practices on Tejon Ranch is especially important for condors because the ranch historically has been a focal point for condors, particularly in the fall (probably due to the consistent availability of food). Grazing also is likely beneficial to California condors because grazing reduces cover of non-native grasses and opens habitat for foraging. Additionally, grazing reduces fuel loads and the risk of catastrophic wildfire. Grazing levels are expected to continue consistent with current practices.

(2) Fuel management:

Fuel management practices consist primarily of grazing. For the reasons described above for livestock grazing, fuel management through grazing is expected to continue to benefit condors by maintaining open habitat. Fuel management activities involving irrigation and/or vegetation clearing around existing structures are not expected to benefit the California condor because they would occur within the 0.5-mile zone of indirect impacts to the species.

(3) Film production:

Filming, like any organized activity on the ranch, could become an attractive nuisance if film crews feed California condors, leave discarded food, or do not pick up microtrash. As previously noted, ingestion of microtrash by adult condors can lead to injury and/or mortality of chicks. Qualified TRC employees, such as the USFWS-approved Tejon Staff Biologist, or personnel are assigned to accompany all film crews and enforce rules prohibiting such behavior. Film shoots that include explosives or other loud noises can adversely affect condors that may be roosting or feeding in the vicinity. Explosions (louder than gunshots) or other abnormally loud noises are prohibited throughout the TU MSHCP Mitigation Lands unless the USFWS-approved Tejon Staff Biologist, in consultation with USFWS, determines that no condors are present. Explosions (louder than gunshots) are prohibited in the Condor Study Area. Effects of such organized activities would be monitored and minimized or avoided throughout the open space, and there would be no permanent structures or production facilities. The Ranchwide Agreement requires that a ranchwide management plan that includes best management practices for filming activities be prepared and followed by TRC. Per the terms of the Ranchwide Agreement, an Interim Ranch-Wide Management Plan (RWMP) is currently in place that requires pre-disturbance review and restoration of the site to pre-disturbance conditions, for example). This TU MSHCP further requires USFWS review and approval of the RWMP during the term of the permit. For the reasons described above, filming activities are not expected to have an adverse effect on condors.

(4) Recreation:

Recreational activities covered by this TU MSHCP (see Section 2.2.1) could have an effect on California condors if they intrude into areas where the species is roosting, foraging, or feeding (on the ground). Human actions that cause the birds to fly off of roosts or carcasses can interfere with their natural behavior. However, the level of potential human impact on condors will be low and similar to what has occurred in other areas within the condor's historic range in association with passive recreation. For example, people recreating in the conservation lands could intersect with a feeding group of condors, which may or may not result in condors abandoning a carcass, depending on the distance and activities involved. Given the large size of the conservation lands; the random, irregular occurrence of carrion that condors use for food; the low-impact, passive recreation activities proposed; and the active monitoring and regulation of those activities by TRC staff or Tejon Ranch Conservancy (Conservancy) docents, as applicable, as well as restrictions on the location and types of organized events, the TU MSHCP Mitigation Lands and conservation lands are expected to continue to provide foraging, feeding, and roosting opportunities for condors. Further, the private recreation activities are limited by the requirement to preserve conservation values pursuant to this TU MSHCP and to follow best management practices required to be developed through the Ranchwide Agreement as part of the RWMP as set forth in Section 2.2.1. Public recreation activities will be governed by a Public Access Plan in areas managed by the Conservancy, subject to USFWS review and approval for consistency with the TU MSHCP and FESA. Public access in the TMV Planning Area will be limited to use by TMV Project residents and guests and by the requirement to preserve conservation values pursuant to this TU MSCHP as set forth in Section 2.2.1, except as areas may be managed by the Conservancy and incorporated into the Public Access Plan. Per the terms of the Ranchwide Agreement, an Interim RWMP is currently in place that includes an Interim Public Access Plan that provides for docent-led public tours and that requires pre-activity surveys prior to any ground-disturbing activities. For the reasons described above, recreation is not expected to have an adverse effect on condors.

(5) Farming and irrigation systems:

A few small agricultural areas exist within the Covered Lands (e.g., small vineyards and an orchard near Castac Lake). Most of TRC's farming operations are located on the San Joaquin Valley floor and are not in the Covered Lands. Previously authorized diversions from several creeks on Tejon Ranch (three are in or adjacent to the Covered Lands) support more extensive agricultural activities on the San Joaquin Valley floor outside the Covered Lands. The principal risk to California condors from farming operations would be if farm chemicals were left in the open unattended, but that is prohibited by applicable requirements for managing pesticides. Farming activities have been a part of Tejon Ranch operations for decades, and there is no evidence of any harm or mortality to condors as a result of farming and irrigation operations. Further, as discussed in *Section 2* of this TU MSHCP, these activities are subject to the farming

and water diversion best management practices in the Interim RWMP, as required by the Ranchwide Agreement. These best management practices require the use of crop planning, as well as biological and cultural management techniques, to reduce the need for pesticides. The farming best management practices also require selection of plants that match climate conditions and that are suited for the available water supply, and installation of water-usage-reducing irrigation systems, such as drip irrigation and adjusted irrigation levels. Other water diversion activities are limited by the Ranchwide Agreement and this TU MSHCP as set forth in Section 2.2.1, so that there will be no significant expansion of groundwater extraction practices as of June 17, 2008, the date of the Ranchwide Agreement, and no major alterations or improvements of the ranch surface for water storage, including water storage in underground aquifers, would occur. For the reasons described above, farming and irrigation systems are not expected to have an adverse effect on condors.

(6) Roads:

Two paved roads of significant length exist entirely or partly within Covered Lands: One provides access to the California Aqueduct for the California Department of Water Resources, and the other provides access to the National Cement plant. Throughout the ranch, unimproved roads exist for access for fire protection, security, ranching activities, and hunting. These are typically dirt roads, and their use and maintenance are not likely to have a negative effect on California condors because similar uses and maintenance have not been shown to have negative impacts on California condors in this or other areas in the species' range. New roads are limited by the terms of this TU MSHCP as set forth in Section 2.2.1. Road maintenance activities are subject to best management practices related to maintenance for fire prevention, maintenance of berms on dirt roads to handle minor stormwater flows, and dust control management activities on dirt roads. Further, to protect the conservation values, under the Interim RWMP, proposed new or relocated roads must first be evaluated, including a site assessment to avoid impacts to sensitive resources. Construction must be planned to reduce impacts on sensitive natural resources and limited to a minimal area. Road use and maintenance have not been observed to be a source of impacts to California condors historically on the ranch or elsewhere within the range of the condor. However, microtrash can inadvertently be left by individuals, motorists, or work crews involved in repair or maintenance activities. As previously noted, ingestion of microtrash by adult condors can lead to injury and/or mortality of chicks. The TU MSHCP includes measures to minimize the risk of microtrash through education and other measures.

(7) Utilities:

Various utilities, including antennae farms, power lines, and communications structures, currently exist on or across the Covered Lands. As limited by the Ranchwide Agreement, utilities in existence as of June 17, 2008, the date of the Ranchwide Agreement, may be used, maintained, repaired, or replaced in their existing location and footprint. In addition to existing

utilities, Plan-Wide Activities for utilities include some relocation and development expansion activities, as specifically described in Section 2.2.1 of this TU MSHCP.

Relocation and/or construction of utilities have not been observed to be a source of impacts to California condors historically on the ranch; however, since there is a risk to California condors from collision with taller power lines, towers, or other tall structures resulting in possible injury or death, measures to avoid or minimize impacts to condors are proposed in Section 4.4 below. Although existing utilities may be relocated, no new transmission towers or lines are proposed to be built within the TMV Planning Area or elsewhere within the Covered Lands, and an existing power line will be relocated underground. Existing power lines on the ranch have not been shown to be a source of collision injury or mortality to condors, likely because most of the existing lines and towers are situated in areas of the ranch generally not used by condors for foraging or feeding. For the reasons described above, maintenance and construction of utilities are not expected to have an adverse effect on condors.

(8) Back-country cabins:

Eight back-country cabins are currently present on the Covered Lands. Maintenance and use of these cabins would continue. In addition, cabins may be relocated with limitations as described in Section 2.2.1 of this TU MSHCP. To protect condors, no new cabins may be constructed in or relocated to the Condor Study Area. As previously noted, microtrash left by users of these cabins could adversely affect condors through ingestion of microtrash by chicks that are fed by adults. In addition, human actions from users of these cabins that cause the birds to fly off of roosts or carcasses can interfere with condors' needs to rest and feed and may have negative effects on the health of individual California condors so affected. Measures to avoid or minimize any effects that could disturb roosting or feeding condors and to minimize the potential for ingestion of microtrash by condors are provided in Section 4.4. With these measures and the restrictions described above, the cabins are not expected to have an adverse effect on condors.

(9) Ancillary ranch structures:

The TU MSHCP provides for the maintenance, construction, expansion, or relocation of existing structures on the TU MSHCP Mitigation Lands that support ranching activities, provided that such activity is de minimis. The permissible level of disturbance is small, so that even if such structures were constructed within suitable condor foraging habitat areas, they would not impact foraging activity, because the TU MSHCP provides for the permanent preservation of both extensive forage and roosting habitat, as well as consistent supply of food associated with the ranching and hunting activities supported by these ancillary structures. With respect to non-de-minimis activities, this TU MSHCP establishes a meet-and-confer process that would allow adverse impacts to be avoided. As noted, ancillary ranch activities would support ranching or hunting uses that benefit the condor, and no adverse effects associated with these ancillary structures are expected.

(10) Fencing:

Existing fences may be maintained throughout the Covered Lands. In addition, under this TU MSHCP as described in Section 2.2.1, new fencing may be constructed only to support existing ranch uses at historical levels and mitigation activities. While fencing currently occurs and can occur within habitat used by condors, fencing is not known to adversely affect condors on the ranch or in other areas within the range of the condor. In addition, any new fencing would first be subject to a site evaluation to avoid impacts to sensitive natural resources under the RWMP required by the Ranchwide Agreement and this TU MSHCP. Therefore, no adverse effects associated with fencing are expected to occur to condors.

(11) Lebec/Existing Headquarters Area uses:

The existing uses in and around TRC's corporate headquarters are located adjacent to I-5 (within 0.5 mile) and therefore are not located in an area that is expected to be used by condors.

(12) Mitigation, monitoring, and management:

Implementing the mitigation requirements related to this TU MSHCP is intended to benefit the condor, and additional mitigation required by any other entity must be carried out in accordance with FESA and reviewed by USFWS. Such activities would not result in adverse effects to the condor.

#### 4.2.1.2 COMMERCIAL AND RESIDENTIAL DEVELOPMENT ACTIVITIES

This section addresses potential impacts on California condors posed by proposed commercial and residential Development Activities (described in *Section 2*) within Covered Lands:

(1) TMV Planning Area:

The TMV Planning Area includes three components: the TMV Specific Plan Area; Oso Canyon, for which there are no current development plans; and West of Freeway, a small area of proposed commercial space west of I-5. The TMV Specific Plan Area is the location of the TMV Project, a master-planned resort community, including residential, hotel, recreational, commercial, institutional, and other support uses. As originally planned, the TMV Project included development extending up to Grapevine Peak; the upper northernmost ridges of Middle, Silver, Squirrel, and Lola's Ridges; the eastern extent of Geghus Ridge; and within Beartrap Canyon.

However, as a result of input by the Condor Panel, the TMV Project area was substantially modified to pull development (approximately 2,385 acres of proposed residential lots) off of these higher-elevation ridges and preserve these areas that have been historically used and currently are used as condor roosting, foraging, and feeding areas, as well as overflight areas

used during movements between habitat to the northeast and southwest. As reconfigured in accordance with the Condor Panel's recommendations, the TMV Specific Plan Area will avoid and permanently preserve these important condor roosting, foraging, and flyover habitat areas. Such reductions will also minimize the potential for condor habituation and microtrash ingestion by avoiding development in areas used by condors.

While historically habitat loss was not considered as one of the primary reasons for the decline of the condor, the TU MSHCP considers habitat loss to be of concern and considers habitat loss as a potential long-term challenge in meeting the overall recovery goals of the California condor, particularly if current issues surrounding persistent lead poisoning are resolved. As the condor population continues to expand and reoccupy historic range areas, the loss of foraging habitat that has converted to land uses not conducive to livestock grazing, hunting, or conservation of native ungulate populations may become one of the primary management issues for the recovery of the species. Habitat in which condors can readily access carrion and that provides suitable winds and updrafts to serve as flyover/movement habitat is important to condors as they reestablish traditional foraging and movement patterns and recolonize historic range areas. The loss of foraging habitat as a result of commercial and residential development under the TU MSHCP, particularly the TMV Project, is discussed in more detail in section 4.2.2.2 below.

However, per the TU MSHCP and the Ranchwide Agreement, approximately 73,562 acres of foraging habitat (excluding areas considered indirectly affected by proposed development and therefore not usable by condors) will be preserved within Covered Lands in perpetuity and managed for the benefit of the species. This represents 87% of all modeled condor foraging habitat within Covered Lands. Consequently, while the loss of suitable foraging habitat associated with the original configuration of the TMV Project was considered a potentially adverse effect on condor habitat, this loss was minimized by (1) the preservation within the TMV Planning Area of habitat (upper-elevation northern ridges and the easternmost portion of Geghus Ridge) considered to be of historical and current value to condors as foraging and flyover habitat, and; (2) preservation of 129,318 acres (91%) of Covered Lands that contains foraging, roosting, and flyover habitat historically and currently used by condors.

As previously discussed, while the potential for California condors to be attracted and/or habituated to areas of human development has been substantially reduced due to recent changes in aversion training techniques in captive-reared condors prior to release, the potential for an individual or two to still show signs of habituation cannot be ruled out. Habituation to development runs several risks, including intentional injury, accidental injury, well-meaning efforts to feed the birds, or harm to the birds from becoming habituated to human activities and ingesting microtrash associated with such activities and human structures. California condors demonstrating habituation behavior must be chased away from dwellings and are at further risk of injury at that time. Accordingly, such "deterrence" is conducted by persons trained for that purpose and permitted under Section 10(a)(1)(A) of FESA and under the Memorandum of

Understanding between USFWS and CDFW that allows such interaction with California condors.

USFWS has determined that California condors that become habituated to human activity despite deterrence efforts, must be captured and relocated, undergo additional aversion training, and be re-released, or be permanently removed from the wild. Any such capture and care would be considered a recovery action and would be carried out by USFWS personnel holding a Federal recovery permit under Section 10(a)(1)(A) of the FESA. Habituation that triggers a USFWS recovery action would constitute a non-lethal "take" of the California condor. Avoidance, minimization, and mitigation measures to avoid or prevent California condor habituation behavior that were developed for this TU MSHCP by USFWS's California Condor Recovery Program Coordinator after inspection of key areas of the development footprint, and further refined by recommendations of the Condor Panel and USFWS guidance, are provided in Section 4.4.

As previously noted, a primary cause of California condor mortality has been collision with power lines. Nine of the California condors released between 1992 and 2003 died after collisions with power lines, making this a major factor in the loss of reintroduced birds. As discussed above, no new aboveground power lines will be constructed to serve development under the TU MSHCP, and approximately 5 miles of an existing power line will be relocated underground. In addition, a number of measures are included as part of the TMV Project that would avoid and/or minimize the potential for collisions with existing utility towers or proposed new antennae or other pole-like structures. These measures are discussed in Section 4.4.

As previously noted, microtrash is known to be a source of injury and/or mortality to condor chicks. Microtrash can be left by individuals or groups participating in various recreational uses within the TMV Specific Plan Area, such as hiking and biking, as well as by those participating in organized recreational events adjacent to or within areas likely to be used by condors. Measures to avoid and/or minimize the potential of microtrash to be ingested by condors are provided in Section 4.4, and adaptive management measures are discussed in Section 4.6.

(2) Lebec/Existing Headquarters Area:

TRC's corporate headquarters is located immediately east of I-5 and within the approximately 410-acre Lebec/Existing Headquarters Area. Currently, this area includes a number of corporate headquarters buildings, an antique shop, a post office, several athletic fields, a church, and 22 residences. Existing activity in the Lebec/Existing Headquarters Area would continue to occur. While additional development could occur here, TRC has no immediate development plans for this area. Because this area is located within a relatively steep canyon with little open habitat and is next to I-5, condors are not expected to forage within or otherwise utilize this area. Condors have not historically used this area, which is also outside the designated critical habitat area. Therefore, no adverse effects associated with potential loss of habitat in this area are expected to occur.

(3) Tejon-Castac Water District Parcel:

The Tejon-Castac Water District will operate and possibly expand water infrastructure within a 16-acre parcel. Because this area is within the bottom of a canyon and in wooded/vegetated habitat, no loss of condor foraging habitat will occur and no other adverse effects on condors will occur with construction at the aqueduct turnout.

## 4.2.2 ANTICIPATED TAKE OF CALIFORNIA CONDOR

### 4.2.2.1 FORMS OF TAKE

The three forms of "take" of listed species under FESA typically addressed in habitat conservation plans are: (1) direct killing or injury; (2) significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (see 50 CFR 17.3 ["harm" definition]); or (3) intentional or negligent acts or omissions that create the likelihood of injury by annoying wildlife to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering (see 50 CFR 17.3 ["harass" definition]).

The purpose of this TU MSHCP as related to the California condor is to avoid, minimize, and/or eliminate all potential direct take, and take due to harm or harassment (including take resulting from habituation of the birds to human activities or structures), under FESA from Covered Activities on Covered Lands.

### 4.2.2.2 TAKE ASSESSMENT

Direct and indirect impacts associated with Plan-Wide Activities and commercial and residential Development Activities within Covered Lands that could potentially result in some form of take include exposure to microtrash, disturbances to feeding or roosting condors, the loss of foraging habitat, risk of collisions with artificial structures, and habituation of released condors to human structures and activities. Each of these is summarized below and the potential for take, if any, is identified.

**Exposure to Microtrash**

Microtrash—small bits of plastic and metal such as bottle caps, pop-tops, and PVC pipe fragments that are inadvertently fed to hatchlings by their parents—is an important factor affecting condor breeding activity (Grantham 2007b; Mee et al. 2007). While adult condors can usually pass such materials without harm, it can cause injury or mortality to condor chicks.

As discussed above, Plan-Wide Activities, including film production, passive recreation, repair and maintenance of roads, use of back-country cabins, and ongoing operations within the Covered

Lands, can result in the buildup of microtrash associated with the development of residences and other structures within condor foraging areas.

However, several measures, including routine efforts to eliminate microtrash and disseminate information regarding the dangers of microtrash and guidelines to follow to eliminate microtrash, are incorporated into the Plan-Wide Activities and commercial and residential Development Activities conservation measures to avoid and/or minimize the potential for microtrash to collect in areas used or potentially used by condors. These measures are discussed in Section 4.4. Consequently, no lethal take as a result of ingestion of microtrash generated within Covered Lands is expected to occur.

**Human Disturbances**

As previously noted, the intentional or inadvertent harassment of condors feeding on carcasses, roosting in trees or on rock outcrops, or that are otherwise utilizing areas within the Covered Lands could cause significant disruption of normal feeding or roosting behaviors in individual condors. Such disruption could occur as a result of Plan-Wide Activities, including noise, nighttime lighting, and activities associated with film production, passive recreation, and occupied back-country cabins. However, several measures, including dissemination of information regarding condor biology and natural history, and inappropriate behaviors and actions near condors, are incorporated into the Plan-Wide Activities to avoid and/or minimize the potential for such activities to disturb condors within Covered Lands. These measures are discussed in Section 4.4. Consequently, no lethal take as a result of disturbance (harassment) is expected to occur.

**Loss of Foraging Habitat**

Loss of foraging habitat, if combined with a significant loss of food source availability, could cause disruption of normal feeding behaviors in individual condors. Thus, the analysis in this TU MSHCP considers both factors.

Since the time the Draft TU MSHCP was issued to the public in January 2009, and based on the USGS report and on additional evaluations of condor GPS data through May 2011, substantially more California condors have been released into the wild, and more condors are using Tejon Ranch and the greater Tehachapi Mountain region (albeit in use patterns consistent with what was described in the Draft TU MSHCP). The evaluation of suitable condor foraging habitat was previously based largely on historic observations and documentation of condor habitat use prior to the initiation of the captive breeding program. However, USFWS recently developed a new model for determining suitable foraging habitat for the California condor on Tejon Ranch.

Specifically, the Tejon Ranch Vegetation Composite Geographic Information System (GIS) layer included in the TU MSHCP was used to identify the extent of vegetation communities that are most easily and commonly used by condors. For purposes of the foraging habitat model,

suitable condor foraging habitat was determined to include those areas where condors are likely to consistently find and access food, in light of food availability and accessibility. As a first step, the GIS layers were overlain with aerial imagery of Tejon Ranch to compare the relative density of the vegetative canopy to open ground. A field site visit was conducted by USFWS condor biologists to determine the relative density, thickness, and extent of the vegetative understory in various vegetation communities, and to assess the potential for condors to access food and/or escape from potential predators. Due to the large expanse of woodlands on Tejon Ranch, it was determined that while there are likely to be some areas within woodland vegetation communities where the understory vegetation structure might allow condors to access a carcass, based on a field visit to look at the vegetation structure of the habitat identified as "woodlands" (i.e., the broad category of vegetation types including greater than 40% canopy cover), USFWS determined that "woodlands" were generally not open enough under the tree canopy to allow condors access to any food sources that may occur there. Therefore, woodland, chaparral, and most scrub vegetation types across the ranch were not identified as suitable foraging habitat for California condors. Including the additional acreage represented by these dense and largely inaccessible vegetation types would greatly overestimate the amount of habitat on the ranch where condors are likely to be able to consistently find and access food. Additionally, since condors have also shown the ability to access food sources on the lower elevations of the ranch, where the topography is less severe than within Covered Lands, and since it is generally acknowledged that opportunistic foraging and feeding will occur wherever condors can locate and safely access food, accessible areas with consistent food supply are considered to be suitable foraging habitat. However, some areas of the ranch, particularly where hunting and grazing regularly occur, may consistently provide more food opportunities for condors than other areas, given the distribution of carcasses.

Based on this analysis, grasslands and oak savannahs are the vegetation communities on Tejon Ranch where condors are the most able to consistently find and access food and, therefore, constitute the vast majority of the suitable foraging habitat in the revised model (see *Figure 5-1, Covered Lands Vegetation Map*, for location of grassland and oak savannah habitat locations). Some additional vegetation communities (e.g., riparian woodland) where the vegetative understory is or may be sparse enough to allow condors to access under the tree canopy were also included. Other vegetation communities, such as chaparral, dense scrub, and most of the on-site woodlands that are characterized as having very little or no open area between the vegetation would make it difficult for condors to move through very easily, due to their large body size and wingspan, and make them more vulnerable to predators. Consequently, it was concluded that condors are not likely to frequent areas such as these that would make it difficult to access and locate food sources.

Furthermore, percent slope and distance from ridgeline parameters are no longer used as parameters in the model as they had been in the previous version of the foraging habitat model, because of the absence of literature supporting such a limitation. In addition, although the

previous condor habitat model included "on-the-ground" condor GPS data points, consistent with available data, USFWS ultimately adopted a more expansive view of suitable habitat using the same data, consistent with the USGS study. To some degree, this shift in focus may also capture areas that may be useable by a larger future condor population.

Based on the revised USFWS model, a total of 182,614 acres of suitable foraging habitat was calculated to occur on Tejon Ranch. Of this total, 84,112 acres occur within Covered Lands. Approximately 79% of the suitable condor habitat in the Covered Lands, or 66,117 acres, is assumed to be unencumbered by development and suitable for condor foraging. The remaining 21% is considered directly and indirectly affected by proposed development and therefore not usable by condors (see indirect impacts discussion below. All of the 66,117 acres of suitable condor habitat remaining within Covered Lands will be preserved in perpetuity and managed for the benefit of the species pursuant to a resource management plan under the auspices of the Conservancy. This includes habitat within the approximately 37,000-acre Condor Study Area initially identified and delineated by the USFWS Condor Recovery Program that has historically been a core habitat area for foraging and roosting by condors on Tejon Ranch and continues to be used by released condors today. An additional 83,818 acres of suitable foraging habitat will be preserved under the Ranchwide Agreement outside of Covered Lands.

When considering the loss of foraging habitat associated with commercial and residential Development Activities within Covered Lands, particularly the direct loss of foraging habitat associated with the proposed TMV Planning Area development envelope, USFWS also considered the indirect effects to California condors that could occur that would ultimately contribute to the overall amount of foraging habitat that would be lost or adversely affected within the TMV Planning Area. To calculate the area of indirect impacts, USFWS included an additional "buffer" of habitat adjacent to the development envelope, which is conservatively presumed to not be used by condors due to the indirect impacts associated with the proximity of development. For example, disturbance (noise, outdoor activities, etc.) associated with the proposed development in the TMV Planning Area could adversely affect condors that may be actively feeding on, or perched near, a carcass in proximity to development. Condors may locate a food source, but not land and feed due to the location of the carcass in relation to the development and associated disturbance. To calculate and estimate the area of indirect effects to suitable condor foraging habitat, USFWS determined that suitable habitat within a distance of approximately 0.5 mile extending out from the edge of the proposed development envelope would not function as condor foraging habitat due to potential disturbances to feeding condors. This determination was based on reports in the literature of condors feeding within distances under 0.5 mile from isolated ranch houses and reports of the distance at which approaching humans induce condors to abandon feeding, although the use of a fixed 0.5-mile distance is conservative in that it does not account for intervening topography or vegetation that may shield condors from indirect effects. USFWS determined that most of these areas of indirect effects that

would otherwise be classified as suitable foraging habitat will not consistently provide feeding opportunities for condors.

Based on the model, a total of approximately 19,536 acres of suitable condor foraging habitat occurs within the TMV Planning Area. No suitable foraging habitat occurs within the Lebec/Existing Headquarters Area. After application of the direct impact area from development and the 0.5-mile indirect disturbance area, the TMV Planning Area would include approximately 2,637 acres of suitable foraging habitat within open space areas, including approximately 2,561 acres of suitable foraging habitat within designated critical habitat (see discussion in Section 4.2.3, below).

Outside the area of indirect effects, USFWS has determined that the larger blocks of suitable foraging habitat within the TMV Planning Area Open Space would still function as foraging habitat (e.g., the eastern end of Geghus Ridge and the area north of Grapevine Peak) when more than 0.5 mile away from development. Based on this assessment, approximately 17,995 acres of suitable foraging habitat are considered to be directly or indirectly lost as a result of development, of which some 12,015 acres are located within the boundaries of the designated critical habitat (see discussion below). Of note, the actual disturbance within the TMV Planning Area development envelope will be limited to 5,533 acres. However, the exact location of various residences and other development infrastructure is unknown; therefore, the larger development envelope of 8,817 acres is conservatively used to assess direct impacts on suitable foraging habitat. Overall, 66,117 acres of suitable habitat will be conserved within the TU MSHCP Mitigation Lands within the Covered Lands that will remain as functional and viable foraging habitat for California condors with implementation of the TU MSHCP. An additional 83,818 acres of suitable habitat will be preserved outside of Covered Lands under the Ranchwide Agreement. The acreages of existing, impacted, and preserved condor suitable foraging habitat are presented in Table 4-1 below.

Determination of the significance of adverse effects to the condor population or its critical habitat (discussed in Section 4.2.3, below) from loss of such suitable foraging habitat also requires assessment of the availability of food in the condor's range, because the California condor forages opportunistically over large expanses of its range. It is a visual scavenger that may identify a food source on its own, or by following other scavenging species, such as common ravens and golden eagles, to locate carcasses. It is recognized that, by definition, an opportunistic scavenger feeds wherever it can find and access an appropriate food source (i.e., opportunistic foraging and feeding will occur wherever condors locate and are able to safely access food). Therefore, for purposes of the TU MSHCP, the analysis of direct and indirect effects on condor foraging habitat includes an analysis of food availability throughout the range of the species in California. This analysis is presented below.

**Table 4-1, Condor Suitable Foraging Habitat**

| Land Area | Acres |
|---|---|
| Existing | |
| Tejon Ranch | 182,614 |
| Covered Lands | 84,112 |
| TMV Planning Area | 19,536 |
| TMV Planning Area, but within Critical Habitat | 13,678 |
| Impacted | |
| TMV Planning Area (direct/indirect) | 17,995 |
| TMV Planning Area, but within Critical Habitat | 12,015 |
| Preserved | |
| TU MSHCP Mitigation Lands | 66,117 |
| Ranchwide Agreement outside Covered Lands | 83,818 |
| TMV Planning Area Open Space | 2,637 |
| TMV Planning Area Open Space, but within Critical Habitat | 2,561 |

Free-flying California condors need approximately 2.2 pounds of food per day based on caloric requirements (Wilbur 1978b). Assuming condors obtain a minimum of 50 pounds of food from the average ungulate carcass (some carcasses also likely provide more than 50 pounds), Wilbur (1978b) calculated a population of 50 condors would require 39,600 pounds of food or 720 carcasses per year. Based on these calculations, an estimated 2,160 carcasses per year would be necessary to provide enough food for a population of 150 condors (which would constitute one of the two such populations needed to meet the down-listing criterion of the Recovery Plan.) Although condors in Southern California are not currently mixing regularly with condors in the north (generally between the Big Sur Coast in Monterey County and Pinnacles National Monument in San Benito County), it is expected that individuals, probably juveniles and unmated adults, will eventually intermix if these sub-populations continue to grow and expand their ranges.

Rangewide, the total number of beef cattle reported in Kern, Los Angeles, San Luis Obispo, Santa Barbara, Tulare, Kings, and Ventura Counties in 2009 equaled 112,000 head (USDA, County Agricultural Commissioners). There was an average mortality rate of 4.7% for cattle and calves in California from 1988 through 2010 (USDA 2011). The U.S. Department of Agriculture includes death loss of all cattle in its reporting and the average mortality of range cattle could be lower or higher than the overall average. Based on that average mortality, this rangewide herd would generate approximately 5,260 cattle carcasses within the range of the Southern California flock of condors.

Sheep and lambs also historically provided an important food resource for condors (Wilbur 1978b; Koford 1953). A total of 106,600 sheep and lamb were reported in Kern and San Luis Obispo counties in 2009 (County of Kern, 2009; County of San Luis Obispo, 2009), with an additional 28,469 sheep reported in Ventura County in 2009 (County of Ventura, 2009). The average sheep

and lamb mortality rate in California from 1988 through 2010 was 4.6% (USDA 2011). Using this average mortality rate, 135,060 sheep and lambs in these three counties would provide an estimated 6,212 sheep and lamb carcasses as potential food resources for California condor.

Based on the above livestock data, it is estimated that 11,472 cattle and sheep carcasses would be produced within the current range of the Southern California subpopulation of condors. These livestock animals together with native ungulate, other native mammal, and wild pig carcasses would likely provide additional food for condor. Livestock, wild pig, and native ungulate carcasses that may occur in Monterey and San Benito Counties are in addition to the 11,472 carcasses estimated in the Southern California sub-population's current range.

Certainly, not all carcasses that may be present within the Southern California sub-population's current home range are expected to be found and consumed by condors. Some carcasses may be disposed of by landowners, consumed by other predators, or simply not discovered by condors. The variability in food availability is consistent with the opportunistic scavenging and far-ranging foraging behavior characteristic of condors (41 FR 41914–41916; USFWS 1996b; Wilbur 1978b; Snyder and Snyder 2000). Nevertheless, when cattle, sheep, native ungulates, wild pig, and other animal mortalities were combined, USFWS estimated that substantially more carcasses per year would potentially be available within the current Southern California population's range than would be needed (2,160 carcasses) to support one (California population) of the two populations of 150 free-flying condors identified in the Recovery Plan's downlisting criteria. Livestock production continues to play a significant role in the economies of counties within the condor's historical range, and therefore, USFWS does not expect that all condors in the recovering population will feed exclusively on Tejon Ranch at all times.

Under the TU MSHCP, the main sources of food for condors—hunting and grazing—will continue throughout the Tejon Ranch critical habitat unit as well as the other areas of suitable condor foraging habitat within Tejon Ranch. Under the Ranchwide Agreement, grazing is anticipated to continue at the current level of 14,500 head of cattle on Tejon Ranch, and hunting would also continue on large areas of suitable foraging habitat preserved under the Ranchwide Agreement and within Established Open Space in Covered Lands. Approximately 550 to 1,100 pigs and deer are killed on Tejon Ranch each year, and wild pigs are expanding their range in California (TRC 2012). Along with wild carrion, hunting activities would continue to provide important food resources for condors using the ranch. Although regular hunting activity will be reduced in scope within the TMV Specific Plan Area, guided hunts will be permitted in the TMV Planning Area Open Space, and TRC's commercial hunting operations will continue in the portions of critical habitat that are outside of the development boundaries.

Taking into consideration the direct permanent loss of approximately 6,656 acres and indirect effects to approximately 11,339 acres of modeled suitable foraging habitat, the amount of food condors require, and the current amount of food estimated to be available in the condors' range, and the amount of modeled suitable foraging habitat remaining on the ranch, along with the continuation of historical and current grazing levels and practices, feral pig and deer hunting, and

the natural population of native ungulates that provide consistent food sources, the ranch will continue to meet the foraging and feeding needs of condors that currently forage on site and will accommodate the foraging and feeding needs of condors in the future as the population expands. In addition, the proposed permanent conservation of historically and currently used traditional roost sites on Winters Ridge, along with the permanent land use restrictions on the TU MSHCP Mitigation Lands and other rangelands proposed by Tejon Ranch within the Tejon critical habitat unit, would enable those lands to continue to provide foraging and roosting habitat essential for the conservation of the condor. The prohibition on commercial and residential development; the continuation of ongoing ranchwide activities, such as grazing and hunting; and strict limitations on the nature and extent of public access are expected to enhance the conservation value of the TU MSHCP Mitigation Lands and other conserved areas of the ranch for the condor.

The loss of foraging habitat associated with the current configuration of the Development Activities proposed under the TU MSHCP is therefore not considered an impact that will significantly adversely affect this species or rise to the level of causing “injury” or “harm” to condors or otherwise interfere with essential behavior patterns. In addition, because condors have not and do not breed on Tejon Ranch, no loss of active nests would occur. Consequently, no take associated with habitat loss is anticipated. In addition, the Covered Activities will avoid take of California condor as defined by California law.

**Collisions with Power Lines and/or Artificial Towers/Structures**

Since their reintroduction into the wild, California condor populations have been affected by collisions with power lines and high-voltage transmission lines (Meretsky et al. 2000; Grantham 2007a; Mee and Snyder 2007). At least seven individuals were killed by collisions with lines between 1988 and 1999 (Meretsky et al. 2000), and such collisions remain a threat to released condors (Snyder and Snyder 2000, 2005; Snyder 2007).

Historically, condors typically did not perch on utility towers of any kind (Bloom pers. comm. 2008). However, many captive-bred and released condors now perch regularly on utility towers at some locations. While direct collisions of condors with stationary transmission or communication towers have not been documented with historical condor populations nor with condors released into the wild since the onset of the captive breeding program, any new aboveground transmission or communication towers or similar vertical structures installed as a result of development within the TMV Planning Area, depending on location, could potentially impact condors as a result of collisions while attempting to land or during low foraging flights. This is particularly a threat if such towers are located along prominent ridgelines potentially used by condors during foraging.

No new aboveground high-voltage towers, transmission lines, or distribution lines will be built within the TMV Planning Area or elsewhere within the Covered Lands, although existing utilities may be relocated near their current positions. All new permanent transmission and distribution lines will be undergrounded. The County of Kern (County) has determined that

emergency communication towers will need to be installed to ensure full radio communication coverage throughout the TMV Planning Area in the event of an emergency, including but not limited to natural disasters such as fires, storms, or earthquakes, and for incidents involving personal injury or safety. Cognizant of the need to minimize the potential for impacts such towers may pose on low-flying condors, the County is requiring installation of two towers (PA-2 and DF-1, as depicted in *Figure 4-9, Proposed Kern County Emergency Communication Tower Locations and Existing Transmission Lines Subject to Relocation*), with one at approximately 78 feet in height (including antennae) and the other at approximately 70 feet in height (including antennae), at the two separate locations in the TMV Planning Area development envelope, depicted in Figure 4-9, in order to provide suitable radio communication coverage. Both towers will incorporate USFWS-approved condor anti-perching devices on all potential landing surfaces, which would be designed to be self-supporting (i.e., no guide wires), and will be designed so the facades are primarily solid to improve visibility. For any future emergency communication towers on Covered Lands, USFWS must review, and may approve, the location and configuration of the towers. With respect to transmission lines, new transmission lines will be undergrounded, and overall, the number of existing aboveground lines will be reduced; any relocation of existing lines (see Figure 4-9) is limited and subject to USFWS review and approval.

In addition, a number of measures are included as part of the TU MSHCP that would avoid and/or minimize the potential for collisions with communication towers or similar vertical structures, including smaller cell phone towers and/or radio antennae. These measures are discussed below in Section 4.4. Consequently, no take as a result of collisions (harm) is expected to occur, and the Incidental Take Permit (ITP) proposes no take authority associated with collisions.

**Habituation to Human Activity and Artificial Structures**

Early releases of captive-bred condors identified unanticipated problems related to the acclimatization of condors to human activities. Condors were observed raiding picnic coolers, perching on houses and aerials, and, in one instance, breaking into a summer cabin and ransacking the interior (Grantham, pers. comm. 2008). Acclimatization potentially draws condors to areas in which human activities could inadvertently harm individual birds and can modify the species behavior in the wild.

California condors demonstrating habituation behavior must be chased away from dwellings and are at further risk of injury at that time. Accordingly, such deterrence is conducted by persons trained for that purpose and permitted under Section 10(a)(1)(A) of FESA and under the Memorandum of Understanding between USFWS and CDFW, as appropriate, that allows such interaction with California condors.

USFWS has determined that California condors that become habituated to human activity despite deterrence efforts, must be captured and relocated, undergo additional aversion training, and be

re-released, or be permanently removed from the wild. Any such capture and care would be considered a recovery action and would be carried out by USFWS personnel holding a Federal recovery permit under Section 10(a)(1)(A) of the FESA. Habituation that triggers such a USFWS recovery action would constitute a non-lethal take of the California condor resulting from a Covered Activity. During the term of the ITP, TRC would be limited to four such takes. No lethal takes of the California condor are requested under an ITP. Avoidance, minimization, and mitigation measures to avoid or prevent California condor habituation behavior that were developed for the TU MSHCP by the USFWS California Condor Recovery Coordinator after inspection of key areas of the development footprint, and further refined by recommendations of the Condor Panel and USFWS guidance, are provided in Section 4.4.

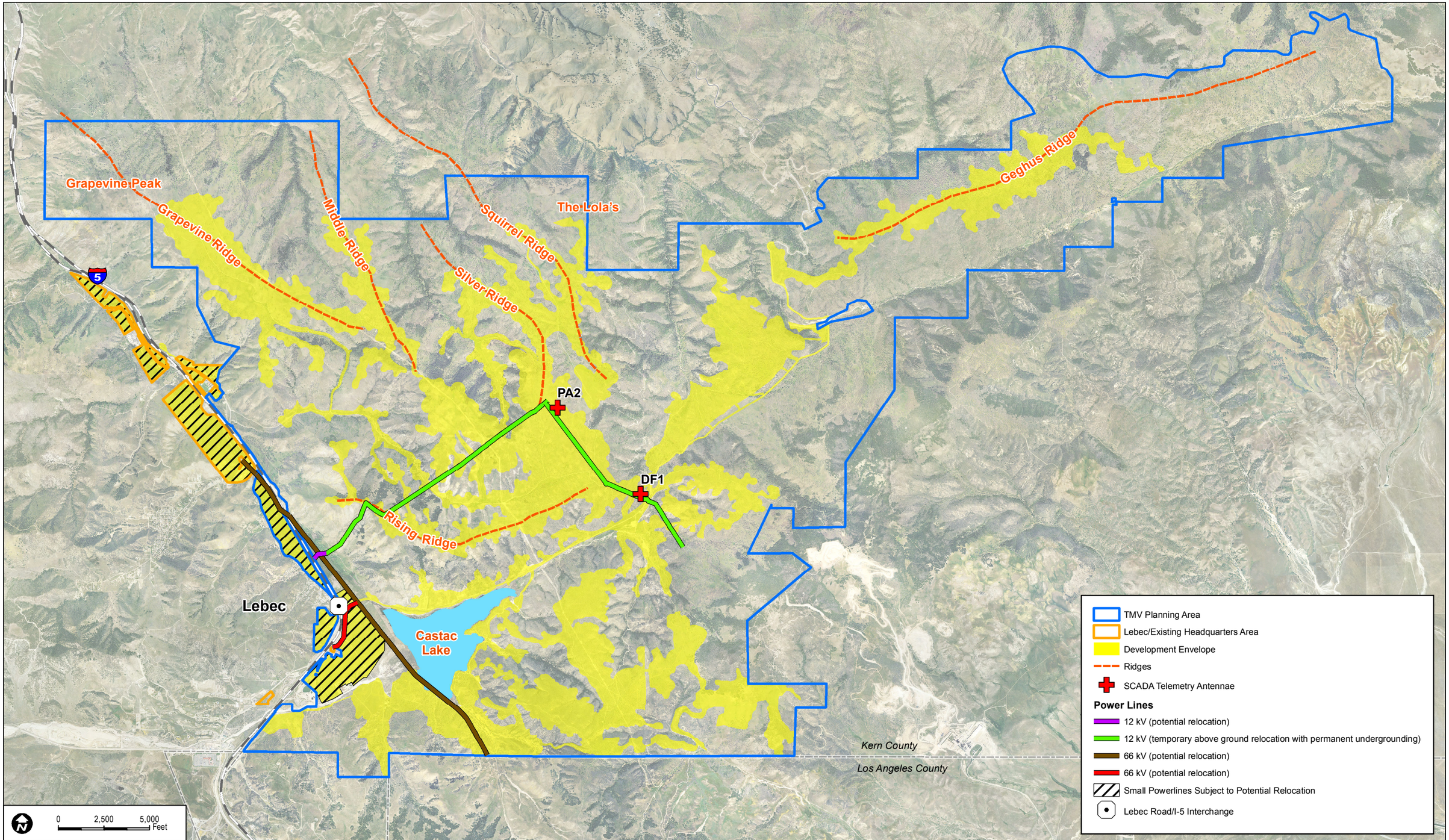
### 4.2.3 EFFECTS ON CALIFORNIA CONDOR CRITICAL HABITAT

#### 4.2.3.1 REGULATORY OVERVIEW

This section includes an analysis of FESA requirements with respect to critical habitat. The actual application of FESA standards is the responsibility of USFWS at the time agency discretion is exercised.

Approximately 605,194 acres within California were designated by USFWS in 1976 as critical habitat for the condor. The designation generally identified square-section townships or quadrangles of land that were intended to encompass areas of intensive condor use known at the time of the designation. The USFWS designation grouped condor critical habitat into nine separately described “areas,” encompassing approximately 134,875 acres that included Tejon Ranch; approximately 127,774 acres are actually within the Tejon Ranch boundary, inclusive of approximately 3,878 acres of private/commercial inholdings. Approximately 95,068 acres of designated critical habitat are within Covered Lands, and 19,091 acres of the 28,253-acre TMV Planning Area are within critical habitat (see *Figure 4-5*).

Under FESA, if a proposed action would adversely affect designated critical habitat, a Federal agency must consult with USFWS to determine if the proposed activity might result in the “destruction or adverse modification” of critical habitat. USFWS issues a biological opinion regarding effects to critical habitat (and other pertinent FESA matters) at the conclusion of the consultation process. However, several court cases, including *Gifford Pinchot Task Force v. United States Fish & Wildlife Service*, 378 F.3d 1059 (9th Cir. 2004), have invalidated the regulatory definition of “destruction or adverse modification” previously utilized to analyze critical habitat impacts during Federal agency consultations. These cases require that USFWS consider whether a proposed activity would impermissibly affect the conservation value of critical habitat, which includes recovery (the eventual downlisting or delisting of the species) or survival functions and values, to make an adverse modification determination.




SOURCE: TRC 2007

**FIGURE 4-9**

**Proposed Kern County Emergency Communication Tower Locations and Existing Transmission Lines Subject to Relocation**

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In December 2004, the USFWS Director's office distributed a memorandum to USFWS's regional directors, "Application of the 'Destruction or Adverse Modification' Standard under Section 7(a)(2) of the Endangered Species Act" (December 9, 2004) (the "Adverse Modification memorandum"). The Adverse Modification memorandum provides guidance to USFWS biologists conducting consultations under FESA pending the adoption of a new regulatory definition of "destruction or adverse modification." Since that time, the regulation invalidated by *Gifford Pinchot* and other courts has not been revised or amended. The Adverse Modification memorandum represents the currently applicable approach utilized by USFWS to address whether an action could destroy or adversely modify critical habitat. As least one Federal court has indicated that compliance with the Adverse Modification memorandum avoids the legal concerns with the existing regulation that were identified in *Gifford Pinchot* and other court cases.[1]

The Adverse Modification memorandum instructs USFWS to not use or cite the current regulation to determine whether an action could destroy or adversely modify critical habitat.[2] In lieu of such citation or reliance, the memorandum identifies the following analytical framework for conducting adverse modification determinations during FESA consultations:

1. In the "Status of the Species/Critical Habitat" analysis in the biological opinion, discuss the entire designated critical habitat area in terms of the biological and physical features that are essential to the conservation (discussion of "survival" in this and other sections of the adverse modification analysis is not appropriate) of the species. This analysis should identify and discuss the primary constituent elements of the critical habitat (as described in the final rule) and, very importantly, the current condition, the factors responsible for that condition, and the conservation role of individual critical habitat units. Many critical habitat designations pre-date the requirement for identification of primary constituent elements that are essential for the conservation of the listed species. In consultations on actions that

[1] In *Center For Native Ecosystems v. Cables*, 509 F.3d 1310 (10th Cir. 2007), the court considered whether USFWS properly analyzed the risk that critical habitat for the Preble's mouse would be adversely modified by certain grazing activities. The court reiterated that the adverse modification analysis must include consideration of recovery as well as survival functions and that the existing regulation defining "destruction or adverse modification" was invalid under *Gifford Pinchot* and other cases. The court found, however, that the issuance of the Adverse Modification memorandum demonstrated that USFWS's determination was not based on the regulatory definition rejected by the courts ("[O]n December 9, 2004, the USFWS apparently instructed its biologists not to rely on the definition pending adoption of a new definition. Therefore, we need not consider the validity of the [invalidated] definition…."). Since the Preble's mouse critical habitat determination did not rely on the regulation, and cited "conservation" criteria that include the concept of recovery as well as survival, the court upheld USFWS's finding that no destruction or adverse modification of Preble's mouse critical habitat would occur as a result of the proposed activities.

[2] The memorandum further recommends that USFWS staff expressly state in consultation documentation that the determination did not rely on the invalidated regulation and include the following statement: "This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 C.F.R. 402.02. Instead, we have relied upon the statutory provisions of the FESA to complete the following analysis with respect to critical habitat."

involve this type of critical habitat, the best available scientific and commercial data should be used to determine and document these elements or habitat qualities.

2. In the "Environmental Baseline" analysis, discuss the current condition of the critical habitat unit(s) in the action area, the factors responsible for that condition, and the conservation roles of the unit(s), with appropriate supporting documentation. In particular, discuss the relationship of the affected unit(s) in the action area to the entire designated or proposed critical habitat with respect to the conservation of the listed species, unless the proposed or final rule designating critical habitat has already clearly done so. Based on the results of this analysis, we will have a clear and credible basis for determining the significance of any adverse or beneficial effects of the action (and cumulative effects) on the function and conservation role of the affected unit(s).

3. In the "Effects of the Action" analysis, characterize the direct and indirect effects of the action and those of interrelated and interdependent actions on the proposed or designated critical habitat. Describe how the primary constituent elements or habitat qualities essential to the conservation of the species are likely to be affected and, in turn, how that will influence the function and conservation role of the affected critical habitat unit(s). This part of the analysis should focus exclusively on the effects to critical habitat. Conservation activities (e.g., management, mitigation, etc.) outside of critical habitat should not be considered when evaluating effects to critical habitat. Based on the analyses under (1) and (2) above, discuss the significance of anticipated effects to critical habitat.

4. In the "Cumulative Effects" analysis, characterize the effects of future, non-Federal actions reasonably certain to occur in the action area in terms of how the primary constituent elements or habitat qualities essential to the conservation of the species are likely to be affected and, in turn, how that will influence the function and conservation role of the affected critical habitat unit(s). Based on the analyses under (1) and (2) above, discuss the significance of these anticipated effects to critical habitat.

5. In the "Conclusion" section, following the standard text, present the reasons why we reached our 7(a)(2) conclusion. Discuss whether, with implementation of the proposed Federal action, critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species, based on the analyses under (1) through (4) above.

The FESA and USFWS regulations and regulatory guidance do not preclude development or other human use of designated critical habitat, provided that the impacts associated with the proposed activities avoid the destruction or adverse modification of the affected critical habitat. According to the USFWS guidance, a "critical habitat designation does not necessarily restrict further development. It is a reminder to Federal agencies that they must make special efforts to protect the

important characteristics of these areas" (USFWS, 2011b). The 1976 designation of condor critical habitat, which was one of the first designations under FESA, specifically observed that critical habitat was not intended to identify areas that must be avoided by human activity:

> [T]here may be many kinds of actions which can be carried out within the Critical Habitat of a species which would not be expected to adversely affect that species. This last point has not been well understood by some persons. There has been widespread and erroneous belief that a Critical Habitat designation is something akin to establishment of a wilderness area or wildlife refuge and automatically closes an area to most human uses. Actually, a Critical Habitat designation applies only to Federal agencies, and is a notification to such agencies that their responsibilities pursuant to Section 7 of the Act are applicable in a certain area (41 FR 41915).

This TU MSHCP implements the requirements of *Gifford Pinchot* and related cases, as well as USFWS's Adverse Modification memorandum by: (1) discussing the condor's entire designated critical habitat area in terms of the biological and physical features that are essential to the conservation of the species; (2) discussing the current condition and conservation roles of critical habitat within Tejon Ranch; (3) characterizing the direct and indirect effects of Covered Activities and how the habitat qualities essential to the conservation of the species and the function and conservation role of the critical habitat are likely to be affected; (4) characterizing how future, non-Federal actions reasonably certain to occur in the action area are likely to affect habitat qualities essential to the conservation of the species and the function and conservation role of the critical habitat; and (5) presenting conclusions based on this analysis regarding whether the proposed TU MSHCP will cause the destruction or adverse modification of condor critical habitat.

#### 4.2.3.2 CONDOR CRITICAL HABITAT ESSENTIAL FEATURES

As previously discussed, USFWS has designated approximately 605,194 acres as condor critical habitat in nine separate areas: (1) the Sespe–Piru Condor Area; (2) the Matilija Condor Area; (3) the Sisquoc–San Rafael Condor Area; (4) the Hi Mountain–Beartrap Condor Areas; (5) the Mt. Pinos Condor Area; (6) the Blue Ridge Condor Area; (7) the Tejon Ranch area; (8) the Kern County rangelands; and (9) the Tulare County rangelands (see *Figure 4-4*). The designation pre-dated the identification of "primary constituent elements" essential for the conservation of the listed species currently utilized by USFWS to make critical habitat designations. The 1976 designation identified the conservation values of the nine critical habitat areas according to their contributions to condor nesting, roosting, or foraging functions:

> With regard to the California condor, the Sespe-Piru, Matilija, Sisquoc-San Rafael, and Hi Mountain-Beartrap Condor areas, as described below, are considered critical for nesting and related

> year-long activity. The Mt. Pinos and Blue Ridge Condor areas, as described below, are considered critical for roosting. The Tejon Ranch, Kern County rangelands, and Tulare County rangelands, as described below, are considered critical for feeding and related activities (41 FR 41914).

USFWS has adopted a Recovery Plan under FESA for the California condor. The most recent revision was completed in 1996.[3] A recovery plan sets forth "reasonable actions that are believed to be required to recover and/or protect listed species" (USFWS 1996b, p. ii). The Recovery Plan states that nesting, roosting, and foraging (feeding) functions are the most crucial functions required to maintain and achieve the recovery of the California condor:

> California condors require suitable habitat for nesting, roosting, and foraging. The recent range was restricted to chaparral, coniferous forests, and oak savannah habitats in Southern and central California. The species formerly occurred more widely throughout the southwest and also fed on beaches and large rivers along the Pacific coast. Nest sites are located in cavities in cliffs, in large rock outcrops, or in large trees. Traditional roosting sites are maintained on cliffs or large trees, often near feeding sites. Foraging occurs mostly in grasslands, including potreros within chaparral areas, or in oak savannahs. At present, sufficient remaining habitat exists in California and in southwestern states to support a large number of condors, if density-independent mortality factors, including shooting, lead poisoning, and collisions with man-made objects, can be controlled (USFWS 1996b, p. v).

A fourth habitat requirement that is not explicitly discussed in the 1976 designation or the Recovery Plan is the preservation of sufficient airspace for condor movement within the species' historic range. Large, high structures that intrude into condor flyways can cause collisions that could harm or disrupt the normal behaviors of the condor.

#### 4.2.3.3 ROLE OF DESIGNATED CRITICAL HABITAT ON TEJON RANCH

As previously stated, the Tejon Ranch area of designated condor critical habitat comprises approximately 130,647 acres (see *Figure 4-5*). USFWS's 1976 designation stated that the Tejon

[3] Lloyd Kiff, a member of the Condor Panel who assisted with analysis of potential impacts of development of the TMV Project on condors, is one of the three listed authors of the 1996 Recovery Plan.

Ranch area primarily provides foraging functions that support condors nesting to the west in the designated Sespe–Piru area:

> The Tejon Ranch is very important because it contains the only significant feeding habitat remaining in close proximity to the Sespe-Piru Condor nesting area (41 FR 41914).

The Tejon Ranch critical habitat area is also discussed in Section 3 of the Recovery Plan, which observes that hunting activities within Tejon Ranch are beneficial to the condor because they provide food sources (carcasses), particularly during the fall months, which can support nesting populations in nearby areas. The plan states that the completion of an agreement with the ranch to maintain uses that benefit the condor, such as hunting, is a conservation goal for the species:

> The Tejon Ranch was an important condor feeding area throughout the annual cycle, but especially in the fall, when there is a high intensity of deer hunting on the ranch. A plan should be prepared with the consent and participation of the affected landowner to maintain its value for condors (USFWS 1996b, Subsection 3325, p. 29).

The Tejon Ranch area of designated critical habitat is largely undeveloped and is principally subject to cattle grazing use. Private, commercial hunting occurs throughout the critical habitat area on a year-round basis. Electrical and telecommunication towers, and certain other regional infrastructure facilities, currently exist within the critical habitat boundaries. No condor nesting sites occur within the Tejon Ranch critical habitat area. One historical roosting site is located on the northern face of the Tunis–Winters Ridge, approximately 5 miles from any of the proposed TMV Project commercial and residential Development Activities.

Foraging activity, including opportunistic feeding by condors in transit from the southwest or northeast, and by nesting condors or fledglings from the Sespe–Piru nesting area, has historically and continues to occur within the Tejon Ranch critical habitat area. In the past, condors were drawn to feeding and bait sites maintained by USFWS in the vicinity of the Tunis–Winters Ridge. In recent years, condors have been known to feed on pig and other hunting carcasses discarded by commercial hunters. Foraging activity within the Tejon Ranch critical habitat area is facilitated by the occurrence of open fields and low-density tree canopies that allow condors to spot carcasses from the air. Under these conditions, condors can more easily locate food sources than in areas in which tree canopies are heavier and open fields located along ridgelines are less prevalent.

#### 4.2.3.4 POTENTIAL DIRECT AND INDIRECT EFFECTS TO CRITICAL HABITAT ON TEJON RANCH

Proposed commercial and residential Development Activities within the TMV Planning Area are located in the southwest corner of the area of designated critical habitat on Tejon Ranch (see *Figure 4-5*). The Lebec/Existing Headquarters Area is not located within designated critical habitat. As discussed above, approximately 19,091 acres, or 14.9%, of the 127,774 acres of total critical habitat on Tejon Ranch is located within the TMV Planning Area boundary; approximately 10,334 acres of the TMV Planning Area are outside of designated critical habitat. Critical habitat acreage within the TMV Planning Area boundary amounts to approximately 3.1% of the 605,194 acres of condor critical habitat designated statewide by USFWS in 1976.

None of the Tejon Ranch critical habitat area contains condor nesting sites. Covered Activities will have no direct effect on condor nesting activity within any of the species' designated critical habitat on Tejon Ranch. One historical roosting site is located within Tejon Ranch critical habitat on the north face of the Tunis–Winters Ridge (in the Condor Study Area). The nearest development in the TMV Planning Area (TMV Specific Plan component) is physically separated by approximately 5 miles and is visually shielded by several ridgelines from this roosting site. Commercial and residential Development Activities will have no direct effect on any known traditional condor roost site.

Based on USFWS's updated condor habitat suitability model, described above in Section 4.2.2.2, approximately 13,718 acres (16%) of modeled suitable foraging habitat within the Tejon Ranch critical habitat unit occurs within the TMV Planning Area. Of the total suitable foraging habitat in the Covered Lands (84,112 acres), approximately 17,995 acres (21%) of modeled suitable foraging habitat located within the TMV Planning Area boundary would be directly lost or indirectly affected by proposed development. A total of 6,656 acres of modeled suitable foraging habitat would be directly lost within the development footprint, and up to an additional 11,339 acres of modeled suitable foraging habitat could be indirectly affected by development-related disturbance (e.g., construction and ongoing human use that may result in visual and noise-related disturbance) outside of the development envelope. However, the actual area of direct and indirect effects is expected to be lower since the disturbance area in the TMV Planning Area is limited to a total of 5,533 acres. As discussed above in Section 4.2.2.2, USFWS determined that all habitat within a distance of approximately 0.5 mile extending out from the edge of the proposed development footprint would encompass the area in which noise and visual activity may disturb condors away from potential food sources. A conservative assumption is that feeding opportunities for condors would be eliminated in this 0.50-mile indirect effects area around the TMV Planning Area development footprint.

As discussed in Section 4.2.2.2, above, taking into consideration the direct permanent loss of approximately 6,656 acres and indirect effects to approximately 11,339 acres of modeled suitable

foraging habitat, the amount of food condors require, and the current amount of food estimated to be available in the condors' range, and the amount of modeled suitable foraging habitat remaining on the ranch, along with the continuation of historical and current grazing levels and practices, feral pig hunting, and the natural population of native ungulates that provide consistent food sources, the ranch will continue to meet the foraging and feeding needs of condors that currently forage on site and will accommodate the foraging and feeding needs of condors in the future as the population expands.

#### 4.2.3.5 OTHER ACTIONS LIKELY TO AFFECT TEJON RANCH CRITICAL HABITAT

In June 2008, TRC and several major environmental groups completed the Ranchwide Agreement outlining the preservation of approximately 240,000 acres of the 270,000-acre ranch. The Ranchwide Agreement will result in several actions that will further protect and conserve the conservation functions and values of the Tejon Ranch critical habitat area, including the following:

- *Ranchwide Agreement conservation easement and Conservancy management.* Under the Ranchwide Agreement, preserved critical habitat within Tejon Ranch will be subject to a permanent conservation easement managed by a conservancy governed by a board composed of TRC, environmental, and independent third-party group members. The conservancy will preclude any new commercial or residential development in the lands subject to the easement, and will only allow new ranch-related structures or infrastructure if such activity preserves and protects the conservation values of the affected land. The Ranchwide Agreement will provide additional, permanent protections for the Tejon Ranch critical habitat area, including all of the Tunis-Winters ridge area that has been heavily used by condors in the past.

- *Ranchwide Agreement development activity.* Under the Ranchwide Agreement, future development within the Tejon Ranch critical habitat area will be limited to the TMV Planning Area and to two projects located on the San Joaquin Valley floor to the north of the Tehachapi range, including the following:

  (1) The Tejon Ranch Commerce Center (TRCC):

  The southernmost portion of the TRCC development area (approximately 2,000 acres) is located in the far northern extreme of the Grapevine USGS quadrangle within the Tejon Ranch area of designated critical habitat. All of the land is below an elevation of 2,000 feet above mean sea level, and condors historically did not, and currently do not, utilize this area of the valley floor to any significant extent. No nesting, roosting, or significant foraging habitat is located in this area, especially in light of the agricultural uses in this area, which do not support the grazing, hunting, or natural ungulate populations to provide a consistent food supply. As a result, the

TRCC project will have no cumulative effects to the conservation values of condor critical habitat.

(2) Grapevine:

Grapevine is a future conceptual development project that would occur within approximately 15,000 acres in the southern part of the San Joaquin Valley floor. No specific development proposals or applications have been made for this area or are planned within the foreseeable future. Under the Ranchwide Agreement, approximately 30% of the Grapevine area along the Tehachapi foothills and above 2,000 feet above mean sea level must be preserved as permanent open space, and only land on and adjacent to the valley floor areas could be potentially developed (see *Figure 4-10, California Condor Critical Habitat with Respect to the Ranchwide Agreement*). Subject to these limitations, approximately 11,000 acres of the designated critical habitat within Tejon Ranch could be affected by Grapevine project development. Of this, approximately 6,653 acres are considered suitable foraging habitat for condors. No nesting or roosting habitat occurs in this area and very little foraging by condors has been documented as occurring there. Given the small foraging areas involved and the preservation of approximately 96% of the Tejon Ranch critical habitat unit on that project site in perpetuity, any potentially foreseeable development within the Grapevine project area will have no significant cumulative effects on the conservation values of condor critical habitat.

- *Covered Lands preservation.* Under the proposed TU MSHCP, all development within the Covered Lands would be restricted to the TMV Planning Area and to the Lebec/Existing Headquarters Area adjacent to I-5. Approximately 66,117 acres of suitable condor foraging habitat would be preserved within Covered Lands, including 23,040 acres of the approximately 37,099-acre Condor Study Area. Approximately 46,045 acres of suitable foraging habitat within critical habitat and also within Covered Lands will be preserved. Consequently, approximately 94% of all Covered Lands within designated critical habitat would be preserved from development under the TU MSHCP and the Ranchwide Agreement and managed to avoid impacts to the condor.

### 4.2.3.6 CONCLUSIONS

The revised analysis of suitable foraging habitat and the expanded available information regarding the use of Tejon Ranch by the expanding population of condors has greatly deepened the analysis of the destruction or adverse modification of critical condor habitat.

In the previous Draft TU MSHCP, the conclusions regarding the destruction or adverse modification of critical habitat under the TU MSHCP rested on the opinion of the Condor Panel. In the opinion of the panel in the prior draft, the implementation of commercial and residential

Development Activities would not result in the destruction or adverse modification of designated condor critical habitat. No nesting, roosting, or airspace habitats would be directly affected by development. The panel also concluded that the conserved areas represent the most important areas to support the foraging functions of condor critical habitat within Tejon Ranch. Based on the preservation of 96% of the critical habitat unit on Tejon Ranch, the continuation of hunting within preserved areas of Covered Lands and elsewhere on Tejon Ranch, and other measures to be implemented by the TMV Project and the Ranchwide Agreement, the panel concluded that the conservation value of other condor critical habitat areas will not be destroyed or adversely modified because the historical foraging functions of the Tejon Ranch critical habitat area would be maintained. As a result, the panel also concluded that commercial and residential Development Activities would not cause the destruction or adverse modification of condor critical habitat within Tejon Ranch or any of the other eight critical habitat areas designated by USFWS.

In light of the additional data and analysis on the use of Tejon Ranch since that time, and the broader approach toward modeling the extent of suitable foraging habitat, as well as the analysis of food availability and needs conducted by USFWS, TRC concludes that the critical habitat overall will maintain its key conservation functions of providing a robust and consistent food supply in areas suitable for condor foraging and feeding on that food supply. As noted above, the preservation on TU MSHCP Mitigation Lands of approximately 66,117 acres of suitable foraging habitat, of which 46,045 acres are within critical habitat, as modeled using USFWS vegetation GIS models, and the continuation of ranch practices that provide a steady food supply, along with the confirmed availability of adequate food sources rangewide, demonstrate that the conservation functionality of the designated critical habitat would be more than adequately preserved not just for the current expanding population of condors, but also to support a recovered population spanning the historical range of the Southern California population. Therefore, it is TRC's conclusion that the approval of the TU MSHCP and the issuance of the ITP would not cause the adverse modification or destruction of condor critical habitat within Tejon Ranch within the meaning of FESA.

### 4.2.4 ANTICIPATED IMPACTS OF THE TAKING OF CALIFORNIA CONDOR

The wild population of the California condor is small and losses of individuals have a substantial impact on the survival and recovery of the species in the wild. The causes of individual losses, both historical and recent (e.g., poisoning due to ingestion of lead ammunition used in hunting), have been the result of activities not covered by this TU MSHCP or activities that are addressed by this TU MSHCP to avoid such impacts to California condors. Moreover, this TU MSHCP provides significant conservation measures (see Sections 4.4.2 and 4.4.3) for the California condor. No lethal take of the species is expected for the reasons previously discussed. Incidental take in the form of harassment due to habituation of condors over the full 50-year term of the ITP, while not expected, cannot be ruled out categorically. Accordingly, TRC proposes that the ITP will allow no more than four incidental non-lethal takes under FESA in total from Covered

Activities on Covered Lands for the term of the permit. However, such takes, should they occur, are not expected to adversely affect the overall population of the species as these individuals would be subjected to additional aversion training that is expected to result in avoidance of human structures and activities upon re-release of the bird. In addition, the removal of the habituated bird provides for the bird's own health and safety and ultimately assists in the recovery of the remaining wild birds that are utilizing the Covered Lands and might otherwise mimic the bird's detrimental behaviors.

## 4.3 BIOLOGICAL GOALS AND OBJECTIVES

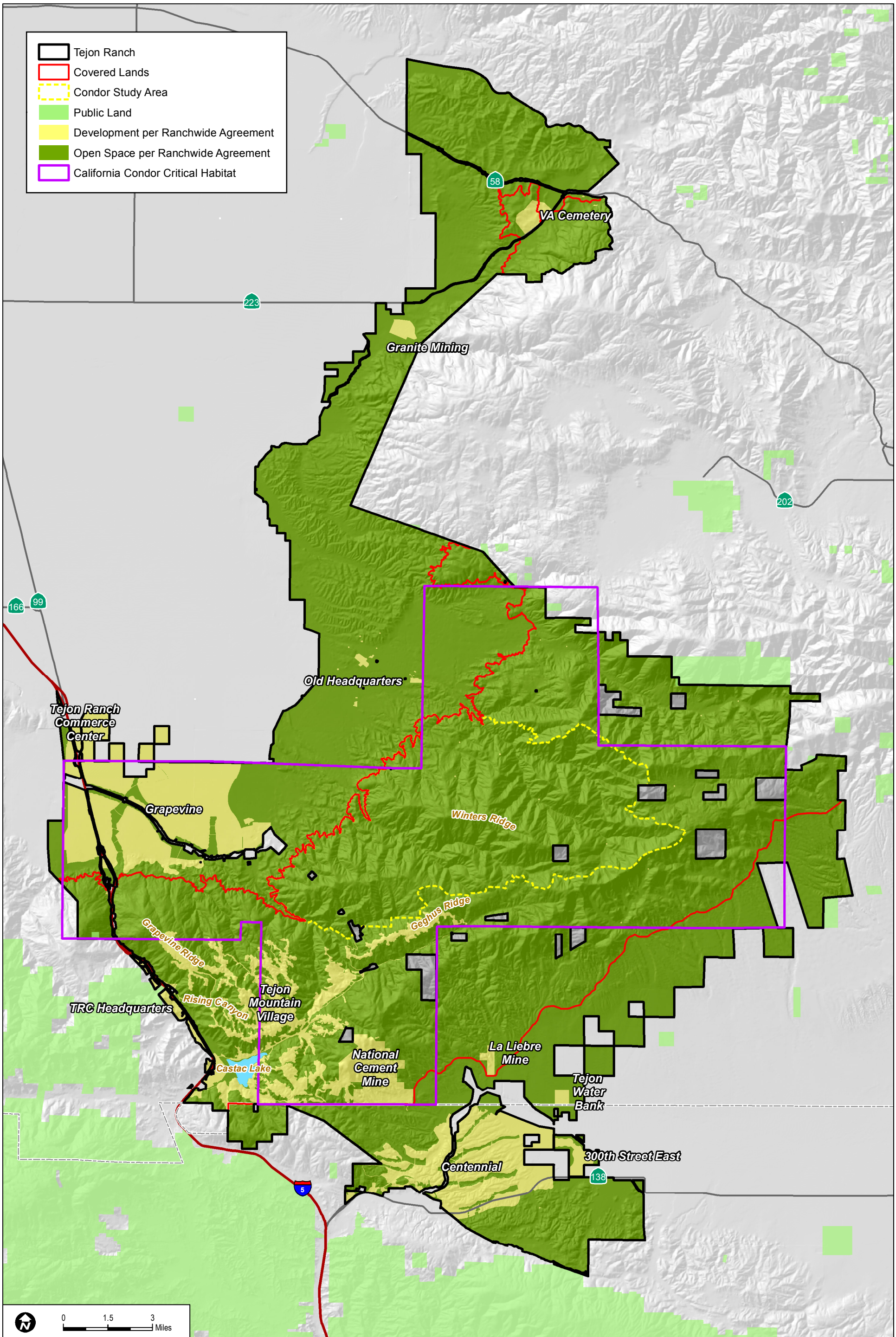
As part of the "five points" policy adopted jointly by USFWS and the National Marine Fisheries Service in 2000, habitat conservation plans must establish biological goals and objectives (65 FR 35242–35257). The purpose of the biological goals is to ensure that the operating conservation program in each habitat conservation plan is consistent with the conservation and recovery goals established for the species. The biological goals are also intended to provide to the ITP applicant an understanding of why these actions are necessary. These goals are developed based upon the species' biology, threats to the species, and the potential effects of the activities covered by, and the scope of, the habitat conservation plan. For the TU MSHCP, the biological goals for the California condor are:

(1) Enhancement of the conservation and recovery of the California condor in the wild by maintaining and enforcing a permanent ban on all its lands of the use of lead ammunition in order to diminish lead poisoning viewed as the principal obstacle to the species' recovery.

(2) Enhancement of the recovery of the California condor in the wild over the full range of geographic areas used by the California condor prior to its removal from the wild by maintaining and promoting California condor use of the ranch, particularly through the preservation of foraging and traditional roosting habitat within Covered Lands.

(3) Enhancement of the recovery of the California condor in the wild by establishment and management by USFWS of a new trap-and-release site in the Condor Study Area, as deemed appropriate by USFWS and if needed to support recovery efforts for the species.

(4) Enhancement of the recovery of the California condor in the wild through the maintenance of existing practices that support the condor population on Tejon Ranch, such as grazing and hunting.




SOURCE: California Resource Agency 2011
TRC 2007
USFWS 2011

**FIGURE 4-10**

**California Condor Critical Habitat with Respect to the Ranchwide Agreement**

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## 4.4 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Section 10(a)(2)(A) of FESA requires that a habitat conservation plan specify the measures that the holder of an ITP will undertake to minimize and mitigate to the maximum extent practicable the impacts of the "taking" of any listed fish or wildlife species as a result of activities addressed by the plan. The remainder of this section describes those measures TRC will implement to avoid, minimize, and mitigate the effects of Covered Activities on California condors. Avoidance and minimization measures are first discussed to address the following effects (discussed above) of Covered Activities on California condor: (1) exposure to microtrash; (2) disturbances to condors; (3) loss of foraging habitat; (4) collisions with artificial structures; and (5) habituation to human activities and artificial structures. Measures to mitigate unavoidable impacts are then addressed, followed by those measures that will contribute to the conservation and recovery of the California condor.

The FESA potential take addressed by these measures are the two forms of "take" as described in FESA Section 3(19) that are associated with "incidental take" under FESA Section 10(a)(1)(B): to "harm" and "harass." All take of California condor under state law is prohibited and avoided under the TU MSHCP.

The development on the Covered Lands over the life of the TU MSHCP and its associated ITP that Tejon Ranch proposes may be undertaken by TRC, its subsidiaries and affiliates, and third parties that are under lease to TRC or have become holders of certificates of inclusion as those terms are defined in Section 2.2.4.

### 4.4.1 MEASURES TO AVOID AND MINIMIZE IMPACTS

The following measures avoid and minimize potential impact on California condors as a result of proposed Plan-Wide Activities, including film production; passive recreation; repair, maintenance, and use of roads; and use of back-country cabins. These measures also avoid and minimize potential impacts on condors as a result of commercial and residential Development Activities within Covered Lands. These measures also contribute to Recovery Plan goals of implementing California condor information and education programs and minimizing California condor mortality factors.

Unless otherwise noted, all of the Condor Avoidance, Mitigation, or Minimization Measures listed below shall apply in perpetuity, run with the land, and shall be recorded in the County Recorder's office through a Memorandum of Permit (MOP) over the Covered Lands. The MOP shall be referenced in the recorded TMV Master Covenants, Conditions, and Restrictions (CC&Rs); recorded TMV Commercial CC&Rs; TMV and TRC access permits; certificates of inclusion; land sale documents; easements; lease agreements; and filming contracts within the Covered Lands.

#### 4.4.1.1 MICROTRASH

(1) TRC or an included entity will prepare condor educational materials and implement a training program, such as printed brochures or other media, that will include information concerning the life history of the California condor, where condors potentially occur within the TMV Planning Area, prohibited behaviors related to condors such as the pursuit, capture, and harassment of individual condors, and other potential direct interaction with condors. The information shall also identify types of microtrash that could be ingested by condors and describe measures to eliminate microtrash at and near all construction sites, recreational areas, outdoor filming projects, roads, and back-country areas where human presence occurs. The education program will include training of key personnel at TRC, appropriate signage at trailheads or entrances to open space areas, and dissemination of pertinent information at on-site nature centers and other public areas. The educational materials will be disseminated to film crews, TMV Project construction and work crews, residents, guests, and visitors, particularly those engaging in recreational activities that could put them in close proximity to condors. Project land managers will be empowered to take action to prevent any such activity that would pose a threat to condors. This measure will be included in implementation documentation as appropriate under the MOP (e.g., CC&Rs for commercial and residential development and contracts with third-party filming entities).

(2) The following condor protection measures shall be implemented and documented as appropriate under the MOP (e.g., CC&Rs for commercial and residential development and contracts with third-party filming entities):

a. Master Developer's Construction Crews—All construction contracts let by the Master Developer shall include provisions requiring the general and subcontractors to provide construction workers with educational materials describing condor protection measures.

b. Residential or Commercial Construction Crews—All land sale contracts issued by the Master Developer shall include provisions requiring future residential and commercial property owners to provide construction workers with educational materials describing condor protection measures.

c. Film Crews—All TRC film crew contracts shall include provisions requiring the film companies to provide crew members with educational materials describing condor protection measures.

d. Residents—The Master CC&Rs shall include requirements for the property manager to distribute educational material describing condor protection measures on an annual basis. The CC&Rs shall also include enforcement language related to condor protection.

e. Resort Guests—The CC&Rs included in the resort, and any land sale contract or management agreement shall include provisions requiring the property management

company to provide resort guests with educational materials describing condor protection measures.

f. Ranch Visitors—All Entry Permits for back-country areas will include educational material describing condor protection measures.

(3) TRC or an included entity will ensure that routine community maintenance activities include regular efforts to eliminate microtrash at and near all work sites, recreational events, filming projects, roads, and back-country areas where human presence occurs. All trash receptacles will be fitted with animal- and weather-resistant lids, will be regularly emptied, and will regularly be inspected by the USFWS-approved Tejon Staff Biologist. This measure will be included in implementation documentation as appropriate under the MOP (e.g., CC&Rs for commercial and residential development and contracts with third-party filming entities). The CC&Rs will include provisions authorizing the Master and Commercial Maintenance Associations, as relevant, to promulgate from time to time rules and regulations recommended by the USFWS-approved Tejon Staff Biologist to address microtrash and trash receptacles and to enforce such rules and regulations, which shall be consistent with and no less stringent than the conservation measures.

(4) The USFWS-approved Tejon Staff Biologist, or designated TRC employees or consultants, will be assigned to all film crews to enforce rules regarding discarding of microtrash items and will require a thorough daily clean-up by the filming entity during and immediately upon completion of all film shoots to eliminate any microtrash that may have accumulated.

#### 4.4.1.2 DISTURBANCE OF CONDORS

(1) A condor educational curriculum, as provided above, will be created and disseminated that will include information concerning prohibited behaviors related to condors, such as the pursuit, capture, harassment, and all other potential direct interaction of the species.

(2) Construction workers, filming crews, TRC staff, and residential and commercial occupants and their guests will be required to cease any behavior which constitutes an attractive nuisance or otherwise presents an unreasonable and avoidable danger to California condors upon direction by TRC and in coordination with the USFWS-approved Tejon Staff Biologist. Pursuant to the MOP, documentation describing this prohibition will not list such behaviors in detail, but will provide examples and authorize the USFWS-approved Tejon Staff Biologist, in consultation with USFWS, to respond to changing California condor behaviors, human activities, and other conditions with whatever restrictions necessary to provide the protection intended.

(3) Recreational activities, particularly organized events, and filming projects in areas where condors are known or expected to occur, will be closely regulated to minimize any effects

that could disturb feeding or roosting condors. Such regulation can include the dissemination of information regarding condors through access permits, or in the case of film production, filming contracts, monitoring by the USFWS-approved Tejon Staff Biologist, and potential setbacks for localized roosting and feeding behaviors near a carcass location.

(4) Fireworks, explosions (louder than gunshots), or other abnormally loud noises are prohibited in the TU MSHCP Mitigation Lands unless the USFWS-approved Tejon Staff Biologist determines, in consultation with USFWS, that no condors are present or would be otherwise adversely affected by the fireworks, explosions, or noise. Additionally, fireworks, explosions (louder than gunshots), or other abnormally loud noises within the Condor Study Area are prohibited.

(5) Educational information as described above will be disseminated through access permits to guests and/or visitors to all back-country cabins regarding microtrash and appropriate behaviors if condors are encountered.

#### 4.4.1.3 LOSS OF FORAGING HABITAT

Based on the revised condor suitable foraging habitat model and assessment, approximately 17,995 acres of suitable foraging habitat, including 12,015 acres in the designated critical habitat, are assumed to be directly or indirectly lost as a result of development associated with the TMV Project. However, large amounts of suitable foraging habitat, as modeled by USFWS, will be preserved as well as available food sources for condors on the ranch, as follows:

- Approximately 66,117 acres of suitable foraging habitat within the TU MSHCP Mitigation Lands and within Established Open Space that will remain as functional and viable foraging habitat for California condors.
- The approximate 37,000-acre Condor Study Area, including 23,040 acres of suitable foraging habitat, that was initially identified and delineated by the USFWS Condor Recovery Program and that has historically been a core habitat area for foraging and roosting by condors on Tejon Ranch and continues to be used, to a large degree, by released condors.
- An additional 83,818 acres of suitable foraging habitat preserved outside of Covered Lands under the Ranchwide Agreement.
- Continued grazing, under the Ranchwide Agreement, at approximately 14,500 head of cattle (with yearly variation to account for rangeland conditions), on the remainder of Tejon Ranch.

- Continued hunting within all preserved habitat areas both within and outside of Covered Lands.

Along with wild carrion, continuation of hunting and grazing activities through the permit term would continue to provide important food resources for condors using the ranch. Consequently, even with the loss of suitable foraging habitat associated with proposed development, there will be sufficient foraging habitat remaining on Tejon Ranch, including sufficient food from wild and domestic carrion on the ranch, to support condors that currently feed on the ranch as well as increased numbers of condors expected to forage there as the population expands.

#### 4.4.1.4 COLLISIONS WITH POWER LINES AND UTILITY STRUCTURES

(1) Within the TMV Planning Area and Lebec/Existing Headquarters Area, design restrictions and review and approval processes are required for new vertical communication structures, as set forth below:

(a) TRC may install two emergency communication towers (PA-2 and DF-1, as depicted in *Figure 4-9*)—one at approximately 78 feet in height (including antennae), and the other at approximately 70 feet in height (including antennae)—at the two separate locations in the TMV Planning Area development envelope, depicted in Figure 4-9, in order to provide suitable radio communication coverage.

The two proposed emergency communication towers will include design restrictions identified by USFWS and set forth below to minimize the potential for collisions. Such restrictions must be reviewed and approved by USFWS and include the following:

1) The towers shall be self-supporting (i.e., no guide wires shall be included as part of the design);

2) The tower facades will be primarily solid (e.g., through use of panels or other sidings, wider or denser lattice work, or alternative tower solutions as approved by USFWS) to increase their visibility to California condors, although microwave dish and antennae will be exposed in order to provide appropriate system operation;

3) The towers will incorporate USFWS-approved condor anti-perching devices on all potential landing surfaces.

(b) The placement and maintenance of any future communication or utility tower or similar structure within the TMV Planning Area and Lebec/Existing Headquarters Area, other than the two communication towers identified in (1)(a) and the smaller cell towers and similar structures identified in (1)(c), is not currently proposed under the TU MSHCP and is generally prohibited; provided, however, that TRC may request and USFWS shall review and may approve the construction, design, and location of any new tower or similar structure. The future placement of any new communication or utility tower or similar structure within the TMV Planning Area and Lebec/Existing Headquarters Area will also trigger the need for an amendment to the TU MSHCP and permit and further NEPA review, if the placement or operation of such tower or structure would exceed the height restrictions and/or other conditions set forth in (1)(c) below or result in new, potentially significant effects on the environment, including but not limited to impacts on or take of FESA-listed species. Such factors as tower height and construction design, historical and existing condor flight patterns over the ranch, and proximity to existing towers and structures would be considered as part of any future USFWS review of the proposed tower or structure. In addition, the future approval of a new tower or structure would require that the tower or structure be self-supporting (i.e., no guide wires shall be included as part of the design) and be kept clean of debris, such as cable, trash, and construction materials. Any tower or structure that provided the potential for perching would be designed to include USFWS-approved anti-perching devices suitable to deter condors from perching on the tower or structure.

(c) Smaller cell phone antennas, radio antennas, and other similar vertical communication structures are a permitted use within the development footprint as long as such structures/antennas adhere to the following criteria: (a) the structures shall be no higher than 10 feet above houses or buildings (taller structures shall require the review and approval of USFWS), assuming the height limits for houses or buildings within the TMV Specific Plan Area vary between 35 and 45 feet; (b) the structures shall be installed within the TMV Planning Area development envelope and/or Lebec/Existing Headquarters Area; (c) if the structure contains surfaces suitable for perching by condors, the structure shall contain USFWS-approved anti-perching devices on such surfaces to deter condors from perching; (d) the structures shall be located closer to trees where practicable and consistent with effective operations of communication systems. TRC shall confer with USFWS regarding the placement of the antenna and structure during preparation of tentative tract maps and corresponding grading plans.

(d) All tower and similar structure sites shall be kept clean of debris, such as cable, trash, and construction materials.

(2) Within the Covered Lands, outside of the TMV Planning Area and Lebec/Existing Headquarters Area, construction or maintenance by TRC or any third party under TRC's control of any new vertical communication or utility tower or similar structures outside existing antenna farms, excluding flexible or small antennas (e.g., whip antennas) under 20 feet in height, is generally prohibited; provided, however, that TRC may request, and USFWS shall review and may approve the construction design and location of any new tower or similar structures. The future placement of any new communication or utility tower or similar structure outside of the TMV Planning Area and Lebec/Existing Headquarters Area on the Covered Lands will trigger the need for an amendment to the TU MSHCP and permit and further NEPA review if the placement of such tower or structure would result in new, potentially significant effects on the environment, including, but not limited to, impacts on, or take of, FESA-listed species. Such factors as tower height and construction design, historical and existing condor flight patterns over the ranch, and proximity to existing towers and structures would be considered as part of any future USFWS review of a proposed communication or utility tower or structure. In addition, the future approval of a new communication or utility tower or structure would require that the tower or structure be self-supporting (i.e., no guide wires shall be included as part of the design) and be kept clean of debris, such as cable, trash, and construction materials. Any tower or structure that provided the potential for perching would be required to include USFWS-approved anti-perching devices suitable to deter condors from perching on the tower or structure.

(3) Within the Covered Lands, no wind farms will be constructed (and TRC agrees to expand the ban to all ranch lands) during the term of the ITP. Additionally, the prohibition on wind farms shall be maintained on the TU MSHCP Mitigation Lands in perpetuity. Notwithstanding the foregoing, individual wind turbine devices, which have the primary purpose to serve electrical generation needs on site, may be constructed following review and approval by USFWS based on USFWS's determination that the device and any associated structures and electrical lines are of a design and in a location that would not pose a threat to condors (e.g., vertical blade designs within screened cylinders may be appropriate, but open-blade designs likely to cause condor fatality in the event of a collision are not appropriate). TRC also commits in perpetuity not to amend or terminate its negative easement right prohibiting wind farms on Gorman Ranch, outside Covered Lands.

(4) Within the Covered Lands, no new aboveground high-voltage tower or transmission line, or similar aboveground electrical transmission structure or line will be built by TRC. The following existing towers and lines (see Figure 4-9) may be relocated within 1,000 feet of existing lines as long as the potential for injury or harm to condors will be minimized

with the installation of anti-perching devices: (1) a north/south 66 kV aboveground transmission line located within TMV Specific Plan Area 1 and 5; (2) a 66 kV aboveground transmission line in the vicinity of the Lebec Road–I-5 Interchange; (3) temporary relocation of an existing aboveground 12 kV transmission line that runs east from I-5, just north of Castac Lake, which will be undergrounded outside of the I-5 corridor within the TMV Planning Area after construction is complete; and (4) possible relocation of smaller aboveground lines during construction (see Figure 4-9). Additional relocated transmission or distribution lines are prohibited unless approved by USFWS following review. All new transmission and distribution lines built by TRC will be placed underground. The locations of the transmission lines proposed for relocation are subject to USFWS review and approval, with the exception that the smaller lines identified in category (4) above may be relocated without USFWS review and approval, provided such smaller lines are relocated within 0.5 mile of I-5 and avoid prominent ridgelines. Any relocation of the 66 kV transmission line (categories (1) and (2) above) shall also avoid prominent ridgelines as identified in Figure 4-9.

(5) Within the Covered Lands, to the extent allowed by law and applicable contracts, TRC will require new agreements with entities that have the authority to place any new aboveground power, communication towers, or other utility lines on the ranch to place any such facilities only with the consent of TRC. Additionally, TRC will seek to enter into consensual agreements with those entities that may otherwise exercise such authority, both currently and in the future, without the consent of TRC. Such agreements will provide for measures to minimize the potential for injury or harm to condors, including requiring such structures to be fitted with anti-perching devices and located within existing utility corridors to the extent practicable. TRC may also encourage such entities, including entities installing underground utilities, to seek certificates of inclusion or become “lessees” under the ITP. These activities would not be Covered Activities unless they are located on Covered Lands and are conducted by TRC or by entities under the direct control of TRC for purposes of implementing the TU MSHCP and ITP that have become third-party lessees as defined in the Implementing Agreement or certificate-of-inclusion holders, or that operate under required or consensual agreements written or modified to give TRC control, including authority to require compliance with all applicable TU MSHCP and ITP requirements. Failure to obtain an agreement with an entity over which TRC does not have control will not be considered a violation of the TU MSHCP or the ITP.

#### 4.4.1.5 HABITUATION TO HUMAN ACTIVITIES AND ARTIFICIAL STRUCTURES

(1) To minimize the potential for condor habituation within the TMV Specific Plan Area, measures relevant to the TMV Planning Area contained within Sections 4.4.1.1, 4.4.1.2,

and 4.4.1.4, above, are required under this TU MSHCP and shall be incorporated into the CC&Rs governing residential and commercial development. Additionally, the CC&Rs shall require that development on the ridges within the TMV Specific Plan Area (the east–west ridge above Rising Canyon; the western portion of Geghus Ridge; and on Grapevine, Middle, Squirrel, Silver, and Lola's Ridges) be designed and constructed to be consistent with the design guidelines and zoning standards contained in the Tejon Mountain Village Specific Plan (35 to 45 feet above finished grade) and will be of relatively low density.

(2) If it is observed or otherwise determined that condors are perching on or attracted to structures located on private property within the TMV Planning Area or other Covered Lands, the USFWS, or other party authorized by USFWS (such as the Tejon Staff Biologist), will be allowed, after coordination with the property owner, to access the property in order to implement avoidance (hazing) measures, including, for example, installation of passive roof-top sprinkler systems on structures to deter condors from the property, and other hazing measures as deemed appropriate by USFWS. This measure will be included in CC&Rs for commercial and residential development.

### 4.4.2 MEASURES TO SUPPORT SERVICE RECOVERY ACTIONS

As previously discussed, while the potential for California condors to be attracted and/or habituated to areas of human development has been greatly reduced due to recent changes in aversion training techniques in captive-reared condors prior to release, the potential of an individual or two to show signs of habituation cannot be ruled out. California condors demonstrating habituation behavior must be chased away from dwellings and are at further risk of injury at that time. Accordingly, such "deterrence" is conducted by persons trained for that purpose and permitted under Section 10(a)(1)(A) of FESA and under the Memorandum of Understanding between USFWS and CDFW that allows such interaction with California condors.

USFWS has determined that California condors that become habituated to human activity despite deterrence efforts, must be captured and relocated, undergo additional aversion training, and be re-released, or be permanently removed from the wild. Deterrence activities may include loud noises, arm-waving, use of restrained dogs or water hoses, and other non-injurious methods to scare a California condor away from a structure or area of human activity. The incidental take will have occurred when USFWS determines, from the report of its biologist or the USFWS-approved Tejon Staff Biologist, and after conferring with TRC, that the bird is habituated (i.e., all deterrence measures have failed) and must be captured and relocated or removed from the wild to a feeding center or other receiving facility, either temporarily or permanently. Any such capture and care would be considered a recovery action and would be carried out by USFWS personnel holding a Federal recovery permit under Section 10(a)(1)(A) of the FESA. As

previously discussed, the TU MSHCP proposes that such take could feasibly occur during the life of the TU MSHCP and proposes a maximum of four such takes. No lethal takes of the California condor are requested under an ITP.

As any such determination by USFWS that habituation behavior of a California condor places the bird at sufficient risk to require its capture and relocation or removal may result in the charging of TRC with a FESA incidental take proposed for authorization by the permit, TRC expects that, except in emergency situations or when immediate action is necessary to ensure capture, USFWS will first confer with TRC and provide the company with a full explanation of the necessity for relocation of the California condor or removal of the bird from the wild.

The following additional measures would be implemented to mitigate the taking of California condors:

(1) *Translocation of a habituated California condor*. Should any FESA non-lethal incidental take (habituation) of a California condor occur from a Covered Activity on the Covered Lands, TRC commits to payment of the full cost of capture, monitoring, relocating, or removal of the habituated bird. *Table 9-1*, *Estimated Costs for Care and Translocation of California Condor Associated with Potential Take*, contains an estimate of the likely capture, monitoring, relocating, or removal costs in 2011 dollars. However, notwithstanding the estimate, TRC will be responsible for payment of the full cost of such capture, monitoring, relocation, or removal.

(2) *Care of a California condor*. Should any such FESA non-lethal incidental take (habituation) of a California condor occur from a Covered Activity on the Covered Lands that results in a physical injury of a California condor, TRC will pay the full cost of its care, including any veterinary treatment for any injury to it, and its removal to and continuing care at a breeding center or receiving facility . *Table 9-1* contains an estimate of the annual cost in 2011 dollars. However, notwithstanding the estimate, TRC will be responsible for payment of the full cost of such care.

### 4.4.3 MITIGATION MEASURES AND MEASURES TO CONTRIBUTE TO CONSERVATION AND RECOVERY OF THE CALIFORNIA CONDOR

The primary mitigation measure under the TU MSHCP is the permanent protection of the TU MSHCP Mitigation Lands for the benefit of the condor and Other Covered Species. The TU MSHCP Mitigation Lands shall be permanently protected by conservation easement or other appropriate deed restriction as follows:

(a) Dedicated conservation of the Initial Mitigation Lands would be phased according to the terms of the Implementing Agreement as follows. A conservation easement is required to be recorded on the 47,671 acres of Initial Mitigation Lands, which include the 37,099-acre Condor Study Area portion of the Established Open Space and a 10,572-acre portion of the TMV Planning Area Open Space, prior to grading of the TMV Project. TRC, at its option, may increase the acreage of the Initial TMV Planning Area Open Space Lands to coordinate easement boundaries with CDFW. The obligation to record a conservation easement over the TMV Planning Area Open Space portion of the Initial Mitigation Lands will be extended for up to 5 years provided that an MOP and a memorandum of agreement to record a conservation easement is recorded prior to the grading of the TMV Project.

(b) The Remaining Mitigation Lands will be permanently conserved in accordance with the terms of the Implementing Agreement as follows. Dedicated conservation easements are required to be recorded over the 56,423 acres of Established Open Space following the schedule set forth in the Ranchwide Agreement, but in no event shall the recording of easements extend beyond the permit term. The 12,429 acres of the TMV Planning Area Open Space within the Remaining Mitigation Lands shall be conveyed by conservation easement or otherwise restricted in a form approved by USFWS as the TMV Planning Area is developed and tentative maps are approved, but in no event shall the recording of easements extend beyond the permit term.

#### 4.4.3.1 CONFIGURATION, ESTABLISHMENT, AND MANAGEMENT OF THE CALIFORNIA CONDOR STUDY AREA WITHIN COVERED LANDS

Proposed open space on Covered Lands includes 93,522 acres of Established Open Space and 23,001 acres of TMV Planning Area Open Space. These are the TU MSHCP Mitigation Lands. An additional 12,795 acres of open space (Existing Conservation Easement Areas), acquired pursuant to the Ranchwide Agreement, will be permanently protected as open space. Together, these areas would occupy about 91% of Covered Lands. The Condor Study Area was configured within this proposed open space to encapsulate historically important habitat, including the only known traditional roost site (on Winters Ridge) as well as what was considered at the time “core foraging habitat” on the ranch. However, recent data, including the USGS report (Johnson et al. 2010), indicated that while the Condor Study Area is still heavily used by condors, foraging occurs in areas of suitable habitat throughout the Covered Lands. The following discusses the history and methods by which the Condor Study Area was configured and established as well as proposed management of the Condor Study Area to contribute to the conservation and recovery of the condor.

#### 4.4.3.1.1 CONFIGURATION AND ESTABLISHMENT OF THE CONDOR STUDY AREA

The Condor Study Area was initially established to include the lands on the ranch that the California condor historically used most frequently (as depicted on *Figure 4-6*). The Condor Study Area covers those lands totaling 37,099 acres in the Tunis and Winters Ridge area, and TRC has agreed to permanently preclude development within the Condor Study Area as part of the conserved lands under the Ranchwide Agreement as of June 2008. Additionally, under the TU MSHCP, the Condor Study Area shall be permanently conserved by a conservation easement to be reviewed and approved by USFWS and recorded as part of the Initial Mitigation Lands (see *Figure 1-3, Proposed TU MSHCP Mitigation Lands*) per the terms of the Implementing Agreement. Existing uses within the Condor Study Area may continue consistent with the provisions of this TU MSHCP, and in compliance with the terms of the Ranchwide Agreement.

The Condor Study Area originally was designed to take into account historical information, the experience of California condor experts, and both telemetry and historical data points. The final configuration evolved over several years (see *Figure 4-11, Condor Study Area*), but it is important to understand how the shape and location of the Condor Study Area were determined in order to ensure the best possible configuration given the areas of the ranch most frequently used by California condors and where Covered Activities would occur.

The first Condor Study Area configuration was created by former USFWS Condor Recovery Coordinator Bruce Palmer in 2002. Mr. Palmer prepared a report on the significance of the ranch to California condor recovery (USFWS 2002a) that served as a basis for delineating the original Condor Study Area of 37,099 acres. The Condor Study Area expanded on an area formerly known as the "Section 4C Area" to include Tunis and Winters Ridge and much of the highest elevations on the ranch. The intent of Mr. Palmer's effort was to capture both the most likely feeding areas (i.e., high, exposed ridgelines with prevailing updrafts) and roosting habitat (i.e., tall trees and high ridges with prevailing updrafts). The configuration also incorporated some of the early telemetry data collected from condor AC-8, the last female taken from the wild. This configuration was the basis for all of the TU MSHCP negotiations that followed for the next 4 years. TRC designed the TMV Project to avoid the Condor Study Area that Mr. Palmer delineated and established setbacks to provide a buffer between development and the Condor Study Area to minimize potential conflicts between condors and human activity.

Since the original delineation of the Condor Study Area, USFWS generated new telemetry data (gathered after Mr. Palmer's first efforts) and reviewed historical data detailing California condor activity on the ranch. The historical data cover the period from 1910 through 1987, although the earliest data from the ranch are from 1967. Historical data end in 1987 when the last wild California condor (AC-9) was taken into captivity. Historical data did not have the benefit of the precision afforded by radio transmitters, satellite tracking, or GPS units. Instead,

observational records that identified specific locations were converted into coordinates that could be integrated into a GIS dataset and mapped. In contrast, the telemetry data gathered between 2000 and 2005 rely on readings from transmitters carried by individual California condors and recorded by mobile tracking units, satellites, and GPS transceivers. By triangulation or direct readings, biologists recorded the precise locations of California condors.

TRC and USFWS GIS experts mapped the data in their entirety to see whether any patterns emerged. In general, the data revealed that California condor activity was concentrated in several areas well-known to California condor experts from their experiences with the birds both prior to the birds' removal from the wild and since reintroductions began in 1992. One of these areas was Tejon Ranch; however, due to scale, the original mapping did not discern specific condor activity on the ranch to a level for which definitive condor suitability boundaries could be identified.

TRC next mapped only the telemetry data, with the thought that these were the most precise data available. This map showed a definite pattern of use of the ranch by California condors, but it only accounted for activity from 2000 through 2005 and did not include historical patterns. USFWS advised TRC that, while the telemetry data were more precise, the majority of the data were from two California condors, AC-8 and AC-9. One of the goals of the reintroduction program, particularly with regard to the "old" birds that were part of the wild flock before their capture, is to reestablish historical movement and land use patterns. USFWS advised that, while the activities of AC-8 and AC-9 would be useful for that purpose, limiting the mapping to the telemetry data introduced a bias toward these two individuals that could not be ignored, and which would have to be balanced with historical data for other birds.

TRC's next step was to map both the telemetry data from 2000 to 2005 and the historical data from 1967 through 1987. A pattern emerged from the telemetry data and the historical data showing that the Condor Study Area that Mr. Palmer delineated in 2002 was fairly accurate as to where California condors were predominantly using the ranch. For most of the historical data, Cogan (1993) assigned an activity code using a complex system of numbers. For example, all foraging fell into category 30,000. Within that category, observers discerned (and Cogan coded) whether the food was bait set out by researchers or natural carrion, even down to the type of animal (e.g., deer carcass versus dead ground squirrel). In discussion with USFWS's current Condor Recovery Coordinator, Jesse Grantham, USFWS decided that some activities were more vital to conservation of, or reflective of the value of the land to, California condors than other activities. USFWS concluded the foraging/feeding was the most important behavior, followed by roosting/perching (nesting would have been first, but California condors have never been recorded as nesting on the ranch).

Continuing to use data provided by USFWS, TRC then created a new map with unique identifiers for telemetry data for AC-8, telemetry data for AC-9, telemetry data for all other California condors fitted with telemetry devices, historical data points for foraging/feeding

birds[4], and historical data points for roosting/perching birds. One consequence was that the number of historical data points that fell into the Covered Lands dropped from 1,121 to 412 (i.e., data for preening, flushing, etc., were no longer mapped). The total number of telemetry data points remained the same (282).

[4] Foraging/feeding data accounts for both natural and baited feeding events. The baited feeding events outnumber the natural feeding events, however, the baited stations reflect where California condors were known to forage and researchers took advantage of the birds' tendency to favor certain areas for feeding. This means that baited or natural, the historical data points for foraging/feeding indicate favored areas for that activity.

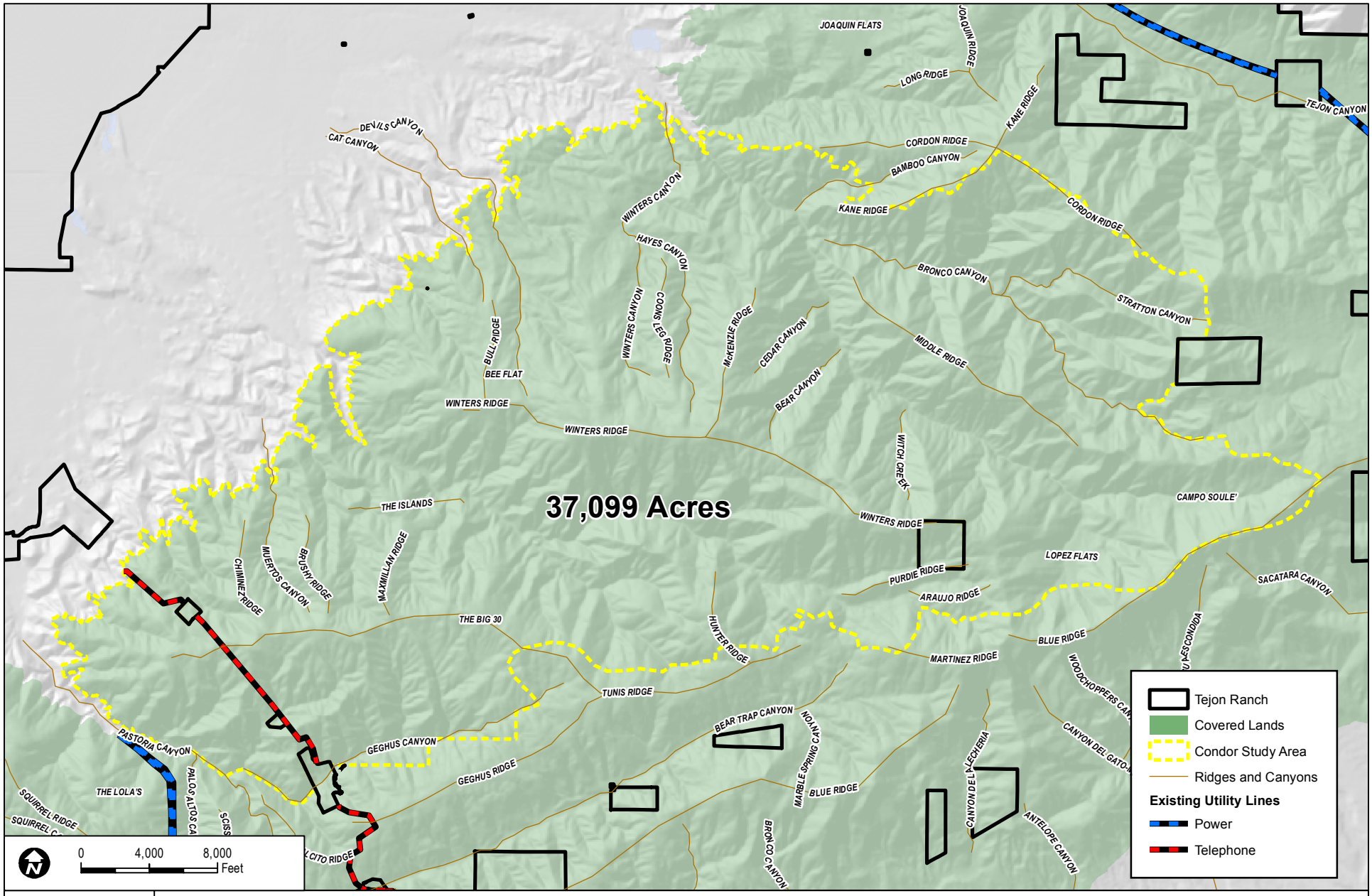


**FIGURE 4-11**

## Condor Study Area

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The new map with the unique identifiers showed that the original Condor Study Area configuration drawn by Mr. Palmer still effectively captured most of the recorded condor occurrence data. What also became apparent was that there were historical data points for foraging/feeding and roosting/perching that were close to the boundary, but were not captured by the original configuration of the Condor Study Area, and some areas were included in the original Condor Study Area where no historical data and very few telemetry data points occurred. TRC decided to explore whether it could reconfigure the Condor Study Area to capture a greater percentage of both the telemetry and historical data points. By shifting a portion of the Condor Study Area to the east and extending some of the boundaries, an alternative to the original Condor Study Area configuration was created. As a final check, this alternative to the original Condor Study Area was reviewed by USFWS current California Condor Recovery Coordinator Jesse Grantham, who has extensive experience with both the present use and the historical use of the ranch by California condors. Mr. Grantham's experience with California condors suggested that the western portion of the original Condor Study Area delineation (which was retained in the revised alternative) had greater significance as foraging habitat than is reflected by the data because foraging/feeding events were rarely witnessed historically (for the entire Covered Lands, only 13 natural feeding events were recorded between 1967 and 1987). Data for the baited feeding stations were more abundant (89 for the same period and area) most likely because observers were monitoring baited feeding sites. Perching/roosting data are naturally more abundant because the birds spend more time roosting and may stay in one location for extended periods, increasing the odds that they will be observed or recorded by satellite, GPS, or radiotelemetry while they are stationary.

Recent condor GPS data indicate a greater number of condors using a much larger portion of Tejon Ranch beyond the boundaries of the Condor Study Area. While no particular area of Tejon Ranch can be characterized as the best or most important foraging habitat for the California condor because the condor data sets do not provide information that is sufficient to provide qualitative information about the specific areas where condors were located at the time the data were generated, the most recent data indicate that the Condor Study Area still contains a substantial amount of suitable foraging habitat (approximately 23,040 acres), as well as the traditional roost sites that were historically and are currently used by the species. Thus, while widespread foraging activity occurs across the ranch, condors continue to use important traditional roost locations on Winters Ridge within the Condor Study Area. These specific locations within the Condor Study Area are particularly important, and are not found in other locations on the ranch.

#### 4.4.3.1.2 CONDOR STUDY AREA MANAGEMENT

To help protect the Condor Study Area, specific management requirements apply:

(a) The Condor Study Area will be managed by the Conservancy in accordance with the TU MSHCP and the guidance of the RWMP, which will be subject to USFWS review and approval for consistency with the TU MSHCP and any recorded conservation easement and FESA. Public access to and use of the Condor Study Area authorized by the Public Access Plan will be controlled, monitored, and enforced by TRC or the Conservancy. Two back-country cabins currently exist on the Condor Study Area. Those cabins may be maintained, improved, repaired, replaced, or reconstructed in their existing locations, within their existing footprints and without substantial increase in height. No other back-country cabins may be constructed or relocated to the Condor Study Area.

(b) Access to the Condor Study Area in the Public Access Plan will be developed in consultation with, and must be approved by, USFWS. The Public Access Plan will be subject to USFWS review and approval in perpetuity and include parameters for human use of the Condor Study Area, including but not limited to the types of uses allowed and disallowed, the level of use intensity, and any seasonal restrictions, if warranted. Measures likely to be incorporated into the program include requiring visitors to register before entering, restricting the number of visitors per day/week/month depending upon California condor use of the Condor Study Area as determined by the USFWS-approved Tejon Staff Biologist and USFWS, and prohibiting future access by those persons who do not follow the rules or comply with the program. TRC or the Conservancy will be responsible for implementing the program and measures.

### 4.4.3.2 ESTABLISHMENT OF SUPPLEMENTAL FEEDING/TRAP-AND-RELEASE SITES

Prior to the recent California condor management era, Wilbur (1978b) showed that California condors could easily be attracted to artificial food sites, and feeding stations have long been in operation in several Old World vulture conservation programs. Supplemental feeding continued to be an integral part of the recovery of the species to serve not only as a means to trap and release condors but also as a means to reduce the likelihood of injury to or mortality of California condors from lead or other poisoning by offering the birds a safe alternative to feeding on contaminated carcasses. However, although lead-contaminated food continues to be a threat to condors, recent data indicates supplemental feeding has not been shown to be an effective tool to facilitate the avoidance of lead poisoning in condors. Despite the regular availability of supplemental food (supplied by existing feeding and trapping sites), and with the large increase in released condors over the last several years, condors are foraging over hundreds of miles, throughout much of their historic range, and are finding their own food. As a result of this natural behavior, they continue to be exposed to carcasses contaminated with lead.

Currently, USFWS provides supplemental feeding primarily to support two major condor recovery actions: 1) the annual release of captive reared juveniles, since newly released condors have no parents to supply them with food and need extra care to increase the likelihood of their survivorship; and 2) biannual trapping of the free-flying population in order to monitor for lead exposures and to maintain or replace GPS transmitters. Supplemental feeding is not expected to be permanent. However, under current and reasonably foreseeable future conditions, USFWS anticipates that the use of supplemental feeding to facilitate trapping and to serve as a food source for recently released juveniles will continue and possibly expand prior to its discontinuation. Any lead-free carcasses, including supplemental carcasses provided by the Condor Recovery Program, would continue to benefit individual condors and the recovering population until lead contamination is no longer a threat.

There is a possibility that supplemental feeding sites within preserved areas of the ranch will be needed in the future in support of the Recovery Plan, as determined by USFWS. Currently, no such feeding site is planned. If such supplemental feeding sites are determined to be needed by USFWS, USFWS will consult with TRC on the location, design, and operation of such feeding sites.

#### 4.4.3.3 ESTABLISHMENT/ENFORCEMENT OF A PERPETUAL RANCHWIDE BAN ON LEAD AMMUNITION

USFWS and the California Condor Recovery Team believe that lead poisoning of California condors from feeding on the carcasses of animals shot by hunters is one of the principal obstacles to conservation and recovery of the species.

After discussions with USFWS, TRC announced on February 23, 2007, that, effective January 1, 2008, it would establish and enforce a ban on lead ammunition. The ban is perpetual and, therefore, survives the life of the ITP. It also covers the entire 270,000 acres of the ranch, not just the Covered Lands. The use of lead ammunition on Tejon Ranch has been banned since January 1, 2008. The ban applies to all hunters registering with TRC's Wildlife Management Operation for hunting access licenses, whether they hunt through a hunting membership, a group hunt, or a guided hunt. California subsequently enacted the Ridley-Tree Condor Conservation Act, which bans lead ammunition in the range of the California condor effective July 1, 2008.

To ensure that the ban on lead ammunition will successfully contribute to reducing the incidence of lead poisoning to condors, TRC will continue to implement the hunter awareness and enforcement program. The components of the program include the following:

- All hunting permittees must acknowledge and sign a notice and agreement that addresses the lead-ammunition ban and the protection of the California condor. By signing the agreement, hunting permittees acknowledge that the possession or use of ammunition containing lead is prohibited and that violation of this prohibition will result in immediate expulsion from the ranch, permanent termination of all future hunting privileges, and liability to TRC and state

and Federal governments. The agreement also clarifies protections that the condor has under state and Federal laws, penalties for violations of these laws, and the application of these laws to all hunting permittees.

- All hunting permittees must acknowledge and sign an agreement that defines hunting rules and regulations on Tejon Ranch. The agreement reiterates that the possession or use of ammunition containing lead is prohibited and that violation of this prohibition will result in immediate expulsion from the ranch, permanent termination of all future hunting privileges, and liability to TRC and state and Federal governments. The agreement includes rules and regulations that, among other things, prohibit shooting at large birds; require that gut piles and carcasses, unless transported off the ranch or are suspected to contain lead, shall remain in place on the ranch; require the removal of all litter, trash, and microtrash; and prohibit any behavior that could be construed as a take of the condor.

- All hunting permittees must acknowledge and sign a hunting permit that reiterates that the possession or use of ammunition containing lead is prohibited and that violation of this prohibition will result in immediate expulsion from the ranch, permanent termination of all future hunting privileges, and liability to TRC and state and Federal governments, and that states that the permit is not valid unless the notice and agreement regarding lead ammunition and protection of condor and the hunting rules and regulations agreement have been acknowledged and signed. The permit also notices that the hunting permittee is bound to all conditions within each of these agreements.

As indicated through this program, enforcement is stringent and TRC operates under a no-tolerance policy. The education and enforcement program is also expected to include workshops and/or seminars that educate hunters with respect to the impacts of lead on condors and that will give hunters an opportunity to experiment with non-lead ammunition alternatives. The hunter education and enforcement program will be implemented by the Wildlife Management Operation at TRC. The ban on use of lead ammunition applies not only to hunters, but also to all TRC employees or third parties who are engaged in any animal damage control or nuisance abatement activities on the ranch. In other words, except for law enforcement, the ban is universal as to all persons who enter the ranch.

To ensure that the lead ammunition ban remains in place and effective in perpetuity, the conservation easement required for TU MSHCP Mitigation Lands will require implementation of the lead ban after expiration of the permit term.

#### 4.4.3.4 FUNDING FOR ADDITIONAL GPS TRANSMITTERS FOR CALIFORNIA CONDORS

TMV LLC will provide funding to install additional GPS satellite tracking transmitters on condors currently not carrying such transmitters to allow for the continuous, real-time

monitoring of the location of wild, free-flying California condors. Specifically, $156,000 will be provided to purchase GPS transmitters prior to the issuance of any grading permits affecting suitable condor foraging or roosting habitat, and then $26,000 will be provided to assist in funding operations, maintenance, and/or replacement every year afterward for a total of 10 years. This system will enable the immediate location of birds that are not moving relative to the ground, which usually indicates than an injury or illness has occurred. The prompt retrieval of injured or sick birds will allow for the rapid implementation of appropriate medical care or rehabilitation, actions that have saved the life of several condors in the past.

#### 4.4.3.5 HIRING OF A FULL-TIME BIOLOGIST

Prior to initiating construction of the TMV Project in the Covered Lands, and for the duration of the ITP term, TRC will retain the service of a full-time biologist ("Tejon Staff Biologist"), as defined in the "Definitions" section preceding *Section 1, Introduction and Background*, to perform the functions described in this section. The hiring will occur no later than 30 days prior to initiation of the start of construction for which all entitlements have been secured and any litigation that might impede or prevent the construction has been concluded without such a result. Promptly after issuance of the ITP, TRC will contract with a qualified third party, whose qualifications are approved by USFWS, to perform these functions until the USFWS-approved Tejon Staff Biologist is retained.

The USFWS-approved Tejon Staff Biologist's primary function will be to assist in minimizing and mitigating any interactions between humans and California condors within the Covered Lands and in administering the avoidance, minimization, and mitigation measures pertaining to condors within the TU MSHCP. The USFWS-approved Tejon Staff Biologist will not be required or allowed to handle or interact with California condors other than incidentally or in emergency situations, and only if he or she has been issued by USFWS a scientific permit under Section 10(a)(1)(A) of FESA, and is permitted to do so by applicable Federal and state law; handling of California condors is the responsibility of USFWS. The USFWS-approved Tejon Staff Biologist will be responsible for performing, either directly or through direct supervision of assigned staff, the following functions related to California condors:

(1) Perform the monitoring and reporting responsibilities of TRC in the TU MSHCP.

(2) Perform the enforcement responsibilities.

(3) For the purpose of minimizing contact and interaction between humans and California condors, (i) coordinate with retained environmental education specialists to prepare guidelines and educational programs, reviewed and approved by USFWS, for proper behavior by persons who buy real estate or visit the developments constructed within Covered Lands, or who are permitted to use the Condor Study Area; and (ii) include

descriptions of such guidelines and programs in pamphlets or other documents which are to be distributed to such persons.

(4) Monitor use of the Condor Study Area by adjacent homebuyers and lessees and facilitate communication and coordination among USFWS, TRC, and the Master Owner Association to ensure that allowed uses of the Condor Study Area do not compromise the value of that area as a California condor safe zone and for traditional and historic ranch uses.

(5) Conduct educational programs and disseminate educational materials concerning the California condor to homebuyers and visitors to any mountain development.

(6) Coordinate with TRC's Wildlife Management Operation on implementation of the hunter education/enforcement program regarding the lead-ammunition ban and condor protection.

(7) Assist USFWS with assessment and implementation methods to discourage California condors' use and visitation of human communities and dwellings on the Covered Lands. The USFWS-approved Tejon Staff Biologist will contact USFWS immediately if habituation behavior by California condors is witnessed or reported and will assist USFWS, as necessary and as requested by USFWS, by providing additional monitoring of condors determined to be exhibiting behaviors with the potential to result in habituation, and/or of areas within Covered Lands determined to be attractive to condors. The discouragement measures, including "hazing," will be implemented by USFWS, in consultation with TRC. However, the USFWS-approved Tejon Staff Biologist will not undertake any hazing activity under this paragraph unless and until he or she has applied for and received a scientific permit from USFWS under FESA Section 10(a)(1)(A) that covers such activity, and any incidental take that may result, and USFWS and TRC have determined that he or she may do so in accordance with all applicable Federal and state law (including approval for inclusion in a Memorandum of Understanding—if and to the extent required—between USFWS and CDFW that allows such interactions with California condors despite their status as a Fully Protected Species under state law).

(8) Assist in communications with USFWS regarding potential violations of the TU MSHCP, FESA, or any recorded conservation easement or CC&Rs.

USFWS may propose specific, additional functions of the USFWS-approved Tejon Staff Biologist that it believes would be appropriate and consistent with the concepts set forth above and applicable legal requirements.

### 4.4.3.6 OTHER CONSERVATION OR CONSERVATION-RELATED MEASURES

(1) Within 60 days of the effective date of the TU MSHCP's associated ITP, TRC will designate a point of contact, who may be a TRC employee, a contractor, or similar agent

under the direct control of TRC, and who will act as a coordinator for all California condor management issues arising on the ranch with respect to the obligations of TRC under this TU MSHCP. The specific responsibilities of the TRC contact will include the following: (i) ensuring that measures proposed by TRC in this TU MSHCP further California condor conservation and are regularly and properly implemented in a timely manner; (ii) acting as a liaison between USFWS and TRC with respect to all conservation program activities and requirements under this TU MSHCP; and (iii) coordinating the provision of necessary Tejon Ranch access documentation and authorization to USFWS personnel in order for such personnel to implement avoidance measures (hazing) to condors exhibiting habituation behaviors and/or to monitor condors on Tejon Ranch. Immediately upon selecting the TRC contact person, TRC will inform USFWS, in writing, of the name, address, and telephone number of that person. TRC will also immediately inform USFWS, as necessary, whenever the identity of the TRC contact person changes, or when the duties of that person are assumed by the USFWS-approved Tejon Staff Biologist (as described in Section 4.4.3.5).

(2) TRC will distribute to its employees a disclosure sheet on California condors that: (i) describes the California condor's protected status; (ii) explains TRC's role in California condor life history and the California Condor Recovery Program; (iii) describes how to recognize and identify California condors that may be using the ranch; (iv) specifies all obligations under the TU MSHCP which may affect TRC employees, including the obligation to report any dead or injured California condors to supervisors or the TRC contact person (described in paragraph (1)), who will inform USFWS; (v) requires the reporting of all California condor sightings made by TRC personnel to a suitable person (e.g., the TRC contact person or USFWS-approved Tejon Staff Biologist); and (vi) provides any further information that may be relevant to California condor protection on the ranch and requirements under the TU MSHCP. TRC must prepare and distribute the employee disclosure sheet within 60 days of the effective date of the ITP. TRC will provide an advance copy of the proposed employee disclosure sheet to USFWS for review and concurrence. TRC, in consultation with USFWS, will also revise the employee disclosure sheet from time to time as appropriate, to ensure it presents accurate and up-to-date information.

(3) TRC will also implement such other conservation programs for the California condor as are mutually agreed to by TRC and USFWS.

## 4.5 MONITORING AND REPORTING

### 4.5.1 MONITORING MEASURES

Federal permitting regulations at 50 CFR 17.22 require that a habitat conservation plan specify what steps the ITP applicant will undertake to monitor the impacts of any take of the Covered

Species allowed under the permit. The likelihood of any take of California condors under this TU MSHCP is expected to be extremely low because the Covered Activities are designed to avoid and/or minimize areas and practices that could harm or harass California condors. Any take whatsoever would be the result of a decision by USFWS to capture a bird because habitat modification has allowed it to habituate to human dwellings or activities and/or it has injured itself from such habituation. For this reason, and because USFWS already performs extensive California condor monitoring functions (including tracking of California condor movements with radio collars and reacting quickly when any failure of an individual California condor to move as expected is detected), monitoring needs under this TU MSHCP are relatively modest. Nevertheless, to ensure that anticipated avoidance, minimization, and mitigation measures are fully implemented, impacts to California condors on the ranch have been anticipated correctly, and the avoidance, minimization, and mitigation measures are working as predicted, TRC will implement the compliance and effectiveness monitoring measures described in Section 4.5. The monitoring will be conducted by the TRC contact person appointed pursuant to Section 4.4.3.6, or, upon his or her appointment pursuant to Section 4.4.3.5, the USFWS-approved Tejon Staff Biologist, or a TRC employee or contractor under the direct supervision of the TRC contact person or USFWS-approved Tejon Staff Biologist.

### 4.5.1.1 COMPLIANCE MONITORING

Compliance monitoring is intended to ascertain whether the holder of an ITP is implementing the avoidance, minimization, and mitigation measures provided in the habitat conservation plan. Consequently, the compliance monitoring is based directly upon those measures set forth in Section 4.5, as failure to implement the measures could result in suspension of the ITP.

#### 4.5.1.1.1 Monitoring for Identified Avoidance/Minimization Measures

***Exposure to Microtrash***

(1) TRC will inspect all lessees and included entities engaged in Covered Activities annually to ensure that they are complying with the restrictions set forth in Section 4.4.1.1 and the leases or certificates of inclusion for the protection of California condors.

(2) As described in Section 4.4.1.1, a TRC employee will be assigned to be with all film crews, construction sites, and large recreational events anywhere within Covered Lands to ensure compliance with rules regarding discarding and cleanup of microtrash items.

(3) TRC will inspect annually all printed and other materials associated with the condor educational curriculum described in Section 4.4.1.1, and any such materials distributed to others working, living, or recreating on, or using or visiting the ranch that TRC deems necessary to meet the requirements of this TU MSHCP to determine that the materials provided convey accurately the requirements of the TU MSHCP. TRC will inspect at

least quarterly all signage placed on the ranch to notify users, residents, and visitors of California condor–related activities and restrictions.

***Disturbances to Condors***

(4) TRC will inspect all lessees and included entities engaged in Covered Activities annually to ensure that they are complying with the restrictions set forth in Section 4.4.1.2 and the leases or certificates of inclusion for the protection of California condors.

(5) A TRC employee will be assigned to all organized recreational events that are scheduled to occur within habitat frequented by condors to ensure compliance with rules regarding behaviors that could adversely affect condors. At a minimum, the employee will review all printed information regarding condors that is disseminated prior to any organized events that will take place in or adjacent to areas where condors may feed or roost.

(6) TRC will inspect all printed and other materials and signage associated with the condor educational curriculum as described in compliance measure (3) above.

***Collisions and/or Habituation with Artificial Structures***

(7) TRC will inspect proposals for and the placement of any new aboveground antennae, cell towers, or other utility structures that are Covered Activities to ensure that they are sited and designed in accordance with the restrictions set forth in Section 4.4.1.4.

(8) TRC will review proposals for home designs in areas frequented by condors to ensure compliance with the design guidelines and zoning standards contained in the Tejon Mountain Village Specific Plan referenced in Section 4.4.1.5.

#### 4.5.1.1.2 Monitoring for Identified Mitigation Measures for Unavoidable Impacts

(9) TRC will confer with USFWS regarding any identified take of condors due to habituation and regarding the necessity for relocation of the California condor or removal of the bird from the wild to ensure compliance with the guidelines and measures set forth in Section 4.4.2 regarding unavoidable take.

#### 4.5.1.1.3 Monitoring for Management of Condor Study Area

(10) The USFWS-approved Tejon Staff Biologist will tour the Condor Study Area regularly, depending on activities that are occurring, but at a minimum once per month to ensure compliance with all requirements related to, and restrictions on, use of the Condor Study Area as set forth in Section 4.5.1.2.

(11) TRC will inspect annually all printed and other materials, including provisions in the resource management plan, and other methods employed pursuant to this TU MSHCP, to

instruct users of the Condor Study Area concerning the requirements for use of the Condor Study Area set forth in Section 4.4.3.1 to determine that the materials and methods are provided or performed and convey accurately the requirements of the TU MSHCP. TRC will inspect at least quarterly all signage placed on the ranch to notify users, residents, and visitors of California condor–related activities and restrictions.

#### 4.5.1.1.4 Monitoring for Establishment of Feeding Stations and Trap Sites

(12) If trap/release sites are determined by USFWS to benefit ongoing condor recovery efforts on a temporary or otherwise basis, TRC, the Conservancy, and USFWS will meet, as provided in Section 4.4.3.2, to determine:

(a) The specific objectives and needs of the supplemental feeding program and trapping sites on the Covered Lands for the upcoming year and compliance with these objectives; and

(b) The specific supplemental feeding activities and measures, and their location(s), that will be implemented to accomplish those objectives and needs.

#### 4.5.1.1.5 Monitoring for Enforcement of Lead Ban

(13) TRC will conduct random inspections of all hunting permittees on the ranch at any given time to ensure that all hunters have valid hunting permits that include acknowledging and signing notices and agreements regarding the ban on lead ammunition, condor protection, and all rules and regulations regarding hunting on the ranch, as described in Section 4.4.3.3. This can also include random sampling of gut piles or carcasses with a radiograph to determine if lead fragments are present.

#### 4.5.1.1.6 General Compliance Monitoring

(14) TRC will investigate any complaint received from any employee, lessee, or third party concerning any allegation of violation of any requirement of this TU MSHCP or the ITP and will immediately notify USFWS of such complaints. The investigation will occur as promptly as possible, but not later than 24 hours from the time of notification if the alleged violation is deemed by the USFWS-approved Tejon Staff Biologist to place at risk any California condor.

(15) At any time the monitoring required by this section determines that TRC or any lessee, included entity, or third party engaged in a Covered Activity on Covered Lands is not in compliance with any restriction or requirement pertaining to the activity contained in this TU MSHCP or the permit (or any other document, including a lease, that incorporates the restriction or requirement), TRC will promptly comply, or promptly take all reasonable

actions to cause the lessee, included entity, or third party to immediately comply, with the restriction or requirement or to cease the Covered Activity giving rise to the noncompliance. This information will also be included in the annual monitoring report to be supplied to USFWS. If initial contacts with and demands made of the lessee, included entity, or the third party by TRC are unsuccessful in causing a cessation of the violation, then reasonable actions will include filing suit for injunction or other appropriate relief under this TU MSHCP and ITP and the applicable document, lease, or certificate of inclusion, and contacting USFWS to discuss other possible actions to obtain compliance.

(16) TRC will notify USFWS in writing of any problem identified by the USFWS-approved Tejon Staff Biologist relating to the activities covered by this TU MSHCP and ITP and the California condor during the monitoring required by this section or otherwise and provide any recommendations TRC deems appropriate to resolve the problem. If TRC and USFWS concur, then TRC will take immediate action to abate the problem in accordance with the terms and conditions of the TU MSHCP and ITP.

(17) With respect to the mitigation measures to be included in CC&Rs, leases, or certificates of inclusion as defined in the ITP, TRC will take the following measures to ensure: (i) compliance with the mitigation measures required to be included in CC&Rs and lease terms as described in Section 4.4.1 (e.g., information regarding disturbances and microtrash, development on/near ridges used by condors, installation of new antennas); and (ii) control of actions of, or conditions associated with, residents, businesses, or guests that USFWS or the USFWS-approved Tejon Staff Biologist determines to be in violation of the TU MSHCP:

(a) If the offending party is a resident subject to the CC&Rs:

(i) Upon the determination by the USFWS-approved Tejon Staff Biologist (or a TRC employee in a managerial position) that a violation, action, or condition has occurred or exists that is contrary to the condor CC&R requirements, he or she will make initial contact with the offending party, informing such party of the violation, action, or condition; directing that the violation, action, or condition cease or be abated; and providing notice of the sanctions that will follow if the violation, action, or condition is not promptly ceased or abated.

(ii) The USFWS-approved Tejon Staff Biologist or other TRC/homeowners association (HOA) employee will attempt to make the initial contact in person and orally.

(iii) If a California condor has been present on the offending party's property or leasehold during the occurrence of the violation, action, or condition, to

the extent the USFWS-approved Tejon Staff Biologist or TRC/HOA employee possesses the requisite authority, he or she will order immediate cessation or abatement or take such action himself or herself to remove the risk posed to the bird by the violation, action, or condition.

(iv) Any oral contact will be followed with a letter to the offending party addressing the violation, action, or condition; the cessation or abatement requirement; and the sanctions that will be applied absent cessation or abatement. If no oral contact could be made, the written notice will be sent immediately after the attempted personal visit.

(v) If the violation, action, or condition is not ceased or abated in accordance with the letter in step (iv), the offending party will be sent a formal written notice repeating the information in step (iv) and, if possible, receive a second visit from the USFWS-approved Tejon Staff Biologist or TRC/HOA employee.

(vi) If the violation, action, or condition is not ceased or abated in a timely manner in accordance with the written notice in step (v), following any due process requirements under the CC&Rs or lease terms, the offending party will be served a written demand by TRC order to cease or desist the violation, action, or condition and will be fined $1,000 (if a resident) plus any costs and expenses incurred as a result of the violation, action, or condition, including the time and expense of the USFWS-approved Tejon Staff Biologist and other TRC/HOA employees in undertaking these steps, attorney's fees and costs of bringing a formal complaint under the CC&Rs, and any actual damages to the California condor.

(vii) If the violation, action, or condition is not ceased or abated in a timely manner in accordance with the written demand provided in step (vi), TRC/HOA will initiate proceedings under the CC&Rs to enforce the order, including the filing of a motion in court for an injunction to force compliance. Such third parties would be liable for any take under FESA that their actions cause, and such incidental take may be applied to the incidental take authorized under the ITP.

(b) If the offending party is the holder of a lease or of a certificate of inclusion, as defined in the ITP:

(i) Steps (i) through (v) in subparagraph (a) will be taken.

(ii) Following the final written notice in step (v) of subparagraph (a), if cessation or abatement has not occurred in a timely manner, TRC/HOA will initiate a default proceeding under the lease, certificate of inclusion, or other possessor document to cause such violation, action, or condition to cease or be abated. Depending on the severity of the violation, action, or condition and the degree of resistance to the notice provided pursuant to step (v) of subparagraph (a), the default proceeding may be a major default proceeding under the lease, certificate of inclusion, or other possessor document to effect eviction or comparable forfeiture proceeding, or motion for injunction, subject to the rights of lenders to the offending party. Such third parties would be liable for any take under FESA that their actions cause, and such incidental take may be applied to the incidental take authorized under the ITP.

(c) If the offending party is a guest of a resident subject to such CC&Rs, or the guest of a holder of a lease or certificate of inclusion, as defined in the ITP, for Covered Activities; or is a licensee or guest of TRC, he or she will be ordered to leave by the USFWS-approved Tejon Staff Biologist or TRC/HOA employee, and any or all of the steps in (a), above, may be omitted and are not required before the order is given. Such third parties would be liable for any take under FESA that their actions cause, and such incidental take may be applied to the incidental take authorized under the ITP.

#### 4.5.1.2 EFFECTIVENESS MONITORING

The biological goals and objectives of this TU MSHCP are stated at the beginning of this section. The following measures address the monitoring necessary to determine if those goals are being achieved and if the species is responding to the overall conservation strategy described in this TU MSHCP.

(1) Declining or non-existent lead levels over time within hunter-killed game animals on the ranch as determined by periodic field testing by the USFWS-approved Tejon Staff Biologist of hunter-killed carcasses and gut piles with a portable radiograph to determine the presence of lead residues.

(2) Declining or non-existent instances of lead ammunition being brought onto the ranch by licensed hunters as enforced and monitored by TRC game managers through random inspections of all hunting permittees on the ranch at any given time to ensure that all hunters have valid hunting permits that include acknowledging and signing notices and agreements regarding the ban on lead ammunition.

(3) Declining or non-existent percentages of lead over time found in condors that regularly visit and feed on Tejon Ranch as measured by USFWS personnel during periodic physical and medical inspections of free-flying condors.

(4) Increased use by condors of the Condor Study Area and other preserved foraging habitat areas on the ranch over time as determined by regular review of USFWS GPS data; if a decrease in use is noted, it should be determined if any reduction in use by condors can be attributed to a change in habitat conditions that is not consistent with the goals of the TU MSHCP.

(5) Reduction over time for the need to deter condors from habituating to human activities and structures on the ranch as determined by USFWS and/or the USFWS-approved Tejon Staff Biologist and as identified in annual monitoring reports prepared by the USFWS-approved Tejon Staff Biologist.

(6) Declining instances of condors on Tejon Ranch ingesting microtrash by monitoring condor movements when they are on the ranch to determine if they are exposed to microtrash generated on the ranch.

(7) No increase of condor collisions with artificial towers or structures on Tejon Ranch (none have occurred) as determined by USFWS and/or the USFWS-approved Tejon Staff Biologist and as documented in annual monitoring reports prepared by the USFWS-approved Tejon Staff Biologist.

### 4.5.2 REPORTING REQUIREMENTS

TRC will submit to USFWS an annual monitoring and compliance report that specifies the following with respect to Covered Activities:

(1) General Activities:

(a) Summaries of the various monitoring activities required by Section 4.5.1 and Section 4.5.2 during the reporting period.

(b) A detailed description of any construction of back-country cabins undertaken by TRC or any lessee or certificate-of-inclusion holder during the reporting period within the Covered Lands, including map location, blueprint or other layout, and photographs, as well as a description of any construction of cabins that may be planned for the next reporting period.

(c) A general description or map/statistical table of any construction undertaken by TRC or any lessee or certificate-of-inclusion holder during the reporting period, or that may be planned during the next reporting period, in the Covered Lands,

containing descriptions of the purpose of the construction activity, mapped location of its final or planned boundaries, the actual or projected timing of the construction, and the actual or projected acreage of the activity.

(d) A general description or map/statistical table of any construction activities undertaken during the reporting period or planned during the next reporting period in the Covered Lands, by persons who are not lessees or certificate-of-inclusion holders and are not affiliates or under the direct control of TRC, to the extent such activities are known to TRC.

(e) A table reporting the acreage totals and locations of construction during the reporting period.

(f) A description, including date, time, and circumstance, of any encounters with California condors known to have occurred during construction or during any other uses or activities on the Covered Lands in the reporting period and any known effects on such birds.

(g) Copies or descriptions of any materials, signage, or other methods employed pursuant to this TU MSHCP during the reporting period to instruct users of the Condor Study Area concerning the requirements for use of the Condor Study Area set forth in Section 4.4.3.1 and others living on, using, recreating in, or visiting the Covered Lands concerning applicable requirements of this TU MSHCP and the ITP.

(h) A copy of the employee disclosure sheet required by Section 4.4.3.6 and distributed to TRC employees in the reporting period.

(i) A summary of any California condor sightings on the Covered Lands reported by TRC employees and other ranch users, including developers, lessees, and included entities during the reporting period, with the date, time, and location of the sightings, as well as any discernible behaviors (flying, perching, eating, roosting) when observed; and copies of reports by the project biologist assigned to construction crews or filming crews regarding any California condors encountered during those activities and the results of monitoring for microtrash ingestion during those periods.

(j) A summary of the filming activities described in Section 4.2.1.1 that occurred during the reporting period, including but not limited to location, duration, and scope.

(k) A general description of any new or amended leases executed by TRC during the reporting period for Covered Activities involving minerals, including the minerals to which the leases apply and the locations of the leaseholds.

(l) Although hunting is not a covered activity, a summary of the written information and orientations for hunters and other educational efforts offered by TRC in conjunction with its perpetual ranchwide ban on the use of lead ammunition, as described in Section 4.4.3.3.

(m) If TRC establishes a California Condor Information Center, a general description of the activities of and visits to the center during the reporting period.

(n) A brief description of any California condor deterrence activities if such activities are conducted by the USFWS-approved Tejon Staff Biologist under applicable Federal and state law, including the dates, locations, times, circumstances, and actions during the reporting period.

(o) An accounting of any California condors found dead, killed, or injured on the ranch during the reporting period, including a description of the date, time, location, and circumstances of the incident, as well as any other pertinent information. Any condors found dead, killed, or injured on the ranch will be reported to USFWS (Ventura Fish and Wildlife Office and California Condor Recovery Program) immediately by telephone and in writing.

(p) A description of any minor or major TU MSHCP and/or ITP amendments, as per Section 8.4, requested and/or approved during the reporting period.

(q) A description of any modifications to the TU MSHCP made in accordance with the adaptive management strategy set forth in Section 4.6.

(r) A table of any adaptive management changes to the TU MSHCP during the reporting period, including a very brief summary of the actions.

(s) A description of any events during the reporting period that fall under the Changed and Unforeseen Circumstances as described in Section 8 and how these circumstances were addressed (50 CFR 17.22(b)(2)(C)).

(t) A description of any additional measures undertaken pursuant to Section 4.4.2 in the event of occurrence of an incidental take.

(u) Notice that copies of the minutes of any meetings between the USFWS-approved Tejon Staff Biologist and the California Condor Recovery Team during the

reporting period have been prepared by TRC and are available for inspection by USFWS at the ranch.

(v) Any adjustments made by TRC in the security required.

(2) Compliance Reporting:

(a) Disclosure of any instances of noncompliance with the provisions of this TU MSHCP and the ITP during the reporting period, including violations of restrictions incorporated in leases pursuant to Section 2.2.4 and of the ban on lead ammunition described in Section 4.4.3.3, as disclosed by the monitoring required in Section 4.5.1.1.5 or otherwise.

(b) A report of all actions, including the enforcement measures taken by TRC, or any lessee, included entity, or third party, during the reporting period to rectify the instances of noncompliance disclosed and achieve compliance with the applicable provisions of this TU MSHCP or the ITP (and restrictions in leases incorporating those provisions), and the effects of such actions.

(c) A description of any problems relating to activities covered in this TU MSHCP and the ITP or the California condor previously provided by notice to USFWS, and the results of any recommendations by TRC or USFWS to address or resolve the problems made.

## 4.6 ADAPTIVE MANAGEMENT

Habitat conservation plans are required to contain adaptive management provisions when there are substantial gaps in the knowledge of the Covered Species that may pose significant risk after the issuance of an ITP. These uncertainties may include lack of ecological data (e.g. food sources, foraging habits, territory size, etc.), uncertainty about habitat or species management, uncertainty regarding the effectiveness of certain conservation strategies or measures, or uncertainty about the extent of potential effects posed by the Covered Activities. Because the entire California condor population was brought into captivity by USFWS to establish a captive breeding program, the condors that have been and are being released from the program represent a unique population that likely behave differently than the wild-bred birds prior to the breeding program being established. In addition, aggressive supplemental feeding programs have been established to ensure that the released condors have access to a stable source of lead-free food. Consequently, how condors that utilize Tejon Ranch will adapt to some of the conservation and mitigation strategies proposed in this TU MSHCP is not entirely known. Therefore, the following measures and processes would be employed, should an adaptive management approach be necessary.

(1) If, as a result of ongoing monitoring by the USFWS-approved Tejon Staff Biologist and USFWS, it is determined that condors are regularly ingesting microtrash on the Covered Lands, if they are observed engaging in habituation behaviors in areas within the Covered Lands where ingestion of microtrash is likely to occur, or if they are observed colliding with or landing on artificial structures on the Covered Lands, an evaluation shall be conducted by TRC and USFWS as to potential remedies to resolve the issue(s) to reduce the instances of microtrash ingestion, collisions, and/or habituation. Potential remedies can include increased education and awareness to Tejon residents, guests, staff, and workers regarding the dangers of microtrash; increased monitoring of events and activities that are potential sources of microtrash, including for example, more frequent collection of microtrash; and revision of guidelines regarding location of antennae and/or towers, including the redesign of problem towers, and if redesign is not effective, relocation of problem towers. Following consultation with TRC, USFWS shall identify the additional measures necessary to address microtrash ingestion, and TRC shall implement those measures. TRC will take such actions if USFWS pre-approves them, without awaiting a notice from USFWS, and will report to USFWS on any actions taken. Otherwise, TRC will take such actions following consultation with USFWS.

(2) If, as a result of ongoing monitoring by the USFWS-approved Tejon Staff Biologist and USFWS, it is determined that California condors are using areas of the Covered Lands on which development has occurred or is occurring, USFWS shall be alerted to the locations and areas in which condors are occurring and USFWS shall consider implementing various actions to deter condors from occurring within developed areas. Consideration should be given to ensuring that carcass dumps and gut piles from hunter-killed game animals are being deposited at locations appropriately distant from existing development.

Given the significant set-aside of land for the California condor within Covered Lands, including the TU MSHCP Mitigation Lands (see *Figure 1-3*), including the Condor Study Area, as well as preservation called for under the recently approved Ranchwide Agreement, and given the additional measures to be implemented by TRC to aid in the conservation and recovery of the species, the adaptive management program incorporated into this TU MSHCP does not extend to changes that would result in further restrictions on the amount or location of development within the development areas set forth in *Table 2-1, Generalized TU MSCHP Land Use Summary*, or the ability to continue grazing in accordance with grazing levels comparable to past grazing practices (14,500 head of cattle). Nothing in this paragraph is intended or shall be construed to restrict the continuing duty of USFWS to ensure that implementation of the TU MSHCP does not exceed permitted incidental take limits, and the TU MSHCP and ITP are not likely to jeopardize the continued existence of the California condor.

## 4.7 MEET-AND-CONFER OBLIGATION AND OBJECTIVES

If the ITP is terminated or notice of prospective termination has been provided by means other than the voluntary withdrawal of TRC under Section 4.4.3.1, or in the event any FESA incidental take of California condor under Section 4.2.4 occurs or the limits of authorized incidental take of any other Covered Species are met, then TRC and USFWS will meet and confer as described in this section to address the permit termination and/or incidental take.

(1) If the ITP has been terminated, or notice of prospective termination has been provided, the objectives of the meetings will be to:

(i) Obtain the cessation and cure of any defaults or failures to perform under this TU MSHCP that led to the termination or termination notice and to provide reasonable assurances of the prevention of further defaults or failures to perform;

(ii) Provide the continued avoidance, minimization, mitigation, and conservation and recovery contributions to, and protections for, the California condor and other Covered Species set forth in this TU MSHCP, or other measures which will secure equivalent or more beneficial effects; and

(iii) Determine next steps consistent with the informal dispute resolution process in the Implementing Agreement, if necessary.

(2) If FESA incidental take of California condor has occurred, then the objectives of the meetings will be to:

(i) Review the circumstances involved in the incidental take;

(ii) Discuss and reach agreement on any methods, within the provisions of this TU MSHCP or mutually agreeable alternative or additional methods, that might be undertaken by either or both TRC or USFWS to minimize even further the likelihood of any additional incidental take authorized by the ITP;

(iii) Agree upon ways in which the benefits to the species under this TU MSHCP might be enhanced; and

(iv) Determine next steps consistent with the informal dispute resolution process in the Implementing Agreement, if necessary.

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