

Master Response 1G

California Condor Overflight Habitat Connectivity

Table MR1G-1. Comments Addressed in Master Response 1G

Comment	Commenter
I293-9	Clendenen, David A., Janet A. Hamber, Allen Mee, Vicky J. Meretsky, Anthony Prieto, Fred C. Sibley, Dr. Noel F.R. Snyder, William D. Toone
I293-18	Clendenen, David A., Janet A. Hamber, Allen Mee, Vicky J. Meretsky, Anthony Prieto, Fred C. Sibley, Dr. Noel F.R. Snyder, William D. Toone
I293-36	Clendenen, David A., Janet A. Hamber, Allen Mee, Vicky J. Meretsky, Anthony Prieto, Fred C. Sibley, Dr. Noel F.R. Snyder, William D. Toone
I293-37	Clendenen, David A., Janet A. Hamber, Allen Mee, Vicky J. Meretsky, Anthony Prieto, Fred C. Sibley, Dr. Noel F.R. Snyder, William D. Toone
I293-38	Clendenen, David A., Janet A. Hamber, Allen Mee, Vicky J. Meretsky, Anthony Prieto, Fred C. Sibley, Dr. Noel F.R. Snyder, William D. Toone
I502-16	Forster, Peggy
I626-6	Hamber, Robert
I627-45	Hamber, Robert
I627-49	Hamber, Robert
I948-17	Manning, Jeffrey A
04-64	Center for Biological Diversity (Keats, Adam)
04-78	Center for Biological Diversity (Keats, Adam)
04-88	Center for Biological Diversity (Keats, Adam)
04-88A	Center for Biological Diversity (Keats, Adam)
04-93	Center for Biological Diversity (Keats, Adam)
04-110	Center for Biological Diversity (Keats, Adam)
04-112	Center for Biological Diversity (Keats, Adam)
04-375	Center for Biological Diversity (Keats, Adam)
04-376	Center for Biological Diversity (Keats, Adam)
04-388	Center for Biological Diversity (Keats, Adam)
04-403	Center for Biological Diversity (Keats, Adam)
04-417	Center for Biological Diversity (Keats, Adam)
05-7	Defenders of Wildlife (Flick, Pamela)

1G.1 Summary of Substantive Comments

The following summarizes the substantive comments received on the Draft EIS and Draft TU MSHCP related to overflight habitat connectivity for California condors. Table MR1G-1 provides a list of the commenters and a reference to the individual comments, as summarized below. The parenthetical reference after each summary bullet indicates where a response to that comment is provided.

- Tejon Ranch is centrally located for California condor movement between the Sespe Wilderness area, Bitter Creek National Wildlife Refuge (NWR), Los Padres National Forest, the Coast Range, nesting areas in Santa Barbara County, and the Sierra Nevada. Tejon Ranch is located in a four-fold ecoregion “choke point” between the Transverse Range and the Sierra Nevada. (Response provided in Section 1G.2.1, Tejon Ranch Location in Relation to California Condor Movement.)
- The loss of Tejon Ranch as a foraging area would cause increased habitat fragmentation between other foraging areas and prevent California condors from traveling between the southern and northern portions of the species’ range because flight distances may become too great. (Response provided in Section 1G.2.2, Habitat Fragmentation and California Condor Movement.)
- The effect of the TMV Project on California condors with respect to flyover habitat is improperly evaluated in the Draft TU MSHCP, which fails to distinguish the TMV Project from other developed areas over which condors fly, in that the TMV Project is larger, located at a more significant “pinch-point”, located higher on ridgelines, and closer to foraging areas. (Response provided in Section 1G.2.3, Effects of the TMV Project on Flyover Habitat.)
- Tejon Ranch is essential to recovery of the California condor because it provides crucial connectivity. The Draft TU MSHCP under-represents the action area and does not evaluate the fragmentation effect of the TMV Project on critical habitat units in California. (Response provided in Section 1G.2.4, Habitat Connectivity on Tejon Ranch and California Condor Recovery.)
- The three areas of proposed Tejon Ranch development form a solid band of human development and activity that is much too large and too close together, and blocks the entire span of condor habitat connecting the southern Sierra Nevada to the Coast Range. (Response provided in Section 1G.2.5, Effects of Combined Cumulative Development on Tejon Ranch on Connectivity.)
- Flight line data that pass over proposed development areas identify critical habitat that connects feeding areas with nesting areas and demonstrate that the combined effects of the TMV Project, Grapevine, and Centennial are a significant intrusion and connectivity barrier to California condors. (Response provided in Section 1G.2.6, Flight Line Data and Proposed Development.)
- The Draft TU MSHCP minimizes the importance of Tejon Ranch for California condor movement and other regional lands and the range map (Figure 1 of the Tejon Ranch California Condor Conservation and Management Plan [Condor Plan][Bloom 2008; originally appended to Draft TU MSHCP as Appendix C]) is inaccurate in showing large areas of the San Joaquin Valley as part of the condor range. (Response provided in Section 1G.2.7, Condor Range Mapping.)
- California condor occurrences based on global positioning system (GPS) data should be buffered by a 0.5-mile radius to address potential effects on condor behavior. When these buffers are added, the three development areas on Tejon Ranch form a more complete barrier to condor movement. (Response provided in Section 1G.2.8, Use of Buffers Around California Condor Occurrence Data).

1G.2 Responses to Substantive Comments

1G.2.1 Tejon Ranch Location in Relation to California Condor Movement

Several commenters noted that Tejon Ranch is centrally located for California condor movement between the Sespe Sanctuary, Bitter Creek NWR, Los Padres National Forest, the Coast Range, nesting areas in Santa Barbara County, and the Sierra Nevada. A commenter noted that the Tejon Ranch is located in a four-fold ecoregion “choke point” between the Transverse Ranges and the Sierra Nevada.

The Service agrees that Tejon Ranch is centrally located and that it is important to ensure that adequate connectivity between the Transverse Ranges and the Sierra Nevada would be maintained if the TU MSHCP were implemented. Specifically, Tejon Ranch currently provides a natural habitat linkage between nesting and foraging areas to the west in Santa Barbara and Ventura Counties (e.g., Los Padres National Forest, Sespe Wilderness, Bitter Creek NWR and the southern Sierra Nevada [e.g., Sequoia National Forest]). Approximately 240,000 acres (90%) of the 270,000-acre Tejon Ranch are required to be protected as open space under the Ranchwide Agreement, including 82% of the Covered Lands. These areas include substantial condor foraging, feeding and roosting habitat. Although Tejon Ranch does serve as an important linkage between historic condor habitat areas east and west of the ranch, the proposed development on Tejon Ranch would not prevent condors from continuing to fly over Tejon Ranch, or to access areas further to the east or west of the ranch. Refer to Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS.

1G.2.2 Habitat Fragmentation and California Condor Movement

Commenters stated that the loss of Tejon Ranch as a foraging area would cause increased habitat fragmentation between other foraging areas and prevent California condors from traveling between the southern and northern portions of the species’ range because flight distances may become too great. The commenters stated that degrading Tejon Ranch critical habitat poses a risk to condor use of the Blue Ridge, Kern County Rangelands, and Tulare County Rangelands critical habitat areas, and could prevent birds released in nesting areas in the southern Sierra Nevada from reaching critical habitat south and west of Tejon Ranch. A commenter stated that the TMV Project would fragment critical habitat on Tejon Ranch and significantly constrict the southernmost tip of the historic range of the condor.

Although Tejon Ranch does serve as an important linkage between historic condor habitat areas east and west of the ranch, the proposed development on Tejon Ranch would not prevent condors from continuing to fly over Tejon Ranch, or to access areas further to the east or west of the ranch for the following reasons. Condors are currently flying over residential areas in the region with residential and commercial development densities similar to or greater than that proposed for the TMV Project. As such, the Service does not expect condors to avoid flying over similar areas in the TMV Specific Plan Area after buildout, particularly over the more outlying areas farther north from Castac Lake that are characterized by lower residential development densities. 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, Interstate 5 (I-5), and even developed portions of Santa Clarita and the northern San Fernando Valley. 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 Service GPS tracking data. These data

indicate increasing use of these habitat areas since 2002, when the Service began to use GPS transmitters to track free-flying condors.

Furthermore, the U.S. Geological Survey (USGS) recently released a report presenting a statistical analysis of GPS data collected from 2004 to 2009 for spatial behavior patterns in six management units in southern California, including Hopper Mountain and Bitter Creek NWRs, Wildlands Conservancy Wind Wolves Preserve, the TMV Specific Plan Area, the California Condor Study Area, and Tejon Ranch, excluding the TMV Specific Plan Area and the Condor Study Area (Johnson et al. 2010) (Appendix I). The study generated condor home ranges by estimating the utilization distribution that can then be used to estimate the probability and intensity of use of certain areas of interest. Appendix A of the USGS condor study 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 NWR, Hopper NWR, and the San Gabriel Mountains. This particular individual's home range encompasses highly urbanized areas in the Santa Clarita and San Fernando valleys and 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.

The TMV Project would not preclude foraging on Tejon Ranch, and thus would not result in habitat fragmentation effects that would prevent flyover of the ranch and movement between areas east and west of the ranch as a result of excessive flight distances. The TMV Specific Plan Development Envelope was modified to move development off of the northernmost higher elevation ridges and slopes to preserve high-quality condor foraging and flyover habitat. These areas include Grapevine Peak and northern Grapevine Ridge, the northern portions of Middle, Silver, Squirrel, and Lolas Ridges, the area encompassing the junction of Tunis and Geghus Ridges, and the easternmost 3-mile reach of Geghus Ridge. Condors have also been documented to fly over the highly urbanized Santa Clarita–Los Angeles area when moving between the Sespe Wilderness area and the San Gabriel Mountains. Similarly, and as discussed above, based on the GPS data, condors regularly fly over developed areas as part of their home ranges (Johnson et al. 2010). Additionally, TMV Project development south of the contiguous 2-mile-wide block of high-quality condor foraging and roosting habitat that extends from the western ranch boundary near Grapevine Peak eastward throughout the upland portions of the ranch is planned as very low-density residential development that would not inhibit condors from flying over or adjacent to these areas. Moreover, there are substantial portions of this area south of the 2-mile-wide area that would not have any development at all, but rather are required to be preserved as open space under the TU MSHCP or the Ranchwide Agreement. Thus, the open space lands, low-density developed lands, and high-density developed lands in the TMV Specific Plan Area would all continue to serve as condor overflight habitat and would provide an ample flight path and linkage for continued condor use of Tejon Ranch, as well as of areas to the east and west of Tejon Ranch.

1G.2.3 Effects of the TMV Project on Flyover Habitat

A commenter asserted that the effect of the TMV Project on California condors with respect to flyover habitat is improperly evaluated in the Draft TU MSHCP, which fails to distinguish the TMV Project from other developed areas over which condors fly, in that the TMV Project is larger, located at a more significant "pinch-point", located higher on ridgelines, and closer to foraging areas.

As discussed above, the free-flying condors in the southern California subpopulation have been recorded flying over communities in the Tehachapi Mountains, which have rural residential

densities similar to or greater than that proposed for the TMV Project. Condors fly over developed portions of the Santa Clarita River and San Fernando Valley that are much more densely developed than the TMV Project. The USGS condor study (Johnson et al. 2010), discussed above used the 2004 through 2009 Service GPS data to estimate home ranges that overlap these developed areas (Appendix I).

Further, the TMV Project is similar in elevation to such communities as Pine Mountain Club to the west, so the higher elevation of the TMV Project site relative to typical flight elevations compared to the lower elevation Santa Clarita River and San Fernando valleys would not constrain flyover behavior. As evidenced by Service GPS tracking data, condor flights over these nearby mountain communities to and from Hopper and Bitter Creek NWRs, and among these areas and Tejon Ranch, have been ongoing for years and reflect continued condor use of historical and current foraging, roosting, and nesting areas. These data indicate increasing use of these habitat areas since 2002, when the Service began using GPS transmitters to track free-flying condors. Condors continue to regularly fly over these regional mountain communities and I-5 to access these areas. The USGS condor study shows that 18 of 21 individuals analyzed have home ranges overlapping developed areas (Appendix I).

While Tejon Ranch is an important linkage between historic condor habitat areas in the southern Sierras to the Sespe Wilderness area and coast range habitat to the east of the ranch, the Service does not anticipate that implementation of the TU MSHCP, including development of the TMV Project, would preclude condors from continuing to fly over Tejon Ranch. Additionally, development immediately south of the 2-mile-wide open space area that is north of the TMV Project site is planned as very low-density residential development that would not inhibit condors from flying over or adjacent to these areas. Please refer to Section 1G.2.2, Habitat Fragmentation and California Condor Movement, above.

1G.2.4 Habitat Connectivity on Tejon Ranch and California Condor Recovery

Commenters stated that Tejon Ranch is essential to recovery of the California condor because it provides crucial connectivity. Commenters also stated that the Draft TU MSHCP does not evaluate the fragmentation effect of the TMV Project on critical habitat units in California. A commenter stated that the TMV Project would fragment critical habitat on Tejon Ranch and significantly constrict the southernmost tip of the historic range of the condor, and suggests that these two effects have the potential to reduce the likelihood of the recovery and survival of the condor by adversely modifying its critical habitat, reducing its distribution, and reducing its reproduction through loss of foraging habitats.

This comment refers to findings standards provided in Section 7 of the Federal Endangered Species Act (ESA). A formal evaluation of the effects of the proposed TU MSHCP and ITP on the condor and condor critical habitat under the regulatory standards of Section 7 of the ESA will be completed through the Service's internal consultation process on the proposed action, and documented in the resulting biological opinion. Refer to Master Response 8, Regulatory Considerations, and Master Response 1B, California Condor Critical Habitat. However, this Supplemental Draft EIS analyzes the effects of potential habitat fragmentation on connectivity and distribution. As discussed under Section 1G.2.2, Habitat Fragmentation and California Condor Movement, above, the proposed action would not result in habitat fragmentation for condors, nor would it fragment critical habitat. Therefore the proposed action would not result in the effects on condor distribution raised by the commenter. Please refer to Master Response 1E, California Condor Loss of Foraging Habitat, for a discussion of the effects of the loss of foraging habitat on California condor reproduction.

Tejon Ranch provides the linkage between the Coastal Range critical habitat units in Santa Barbara, Ventura, and Los Angeles Counties with the units in the southern Sierra Nevada. For the reasons described previously in this response and in Master Response 1E, California Condor Loss of Foraging Habitat, and Master Response 1B, California Condor Critical Habitat, the Services does not anticipate condors would be constrained from moving freely between the Tejon Ranch critical habitat unit and the other critical habitat units as a result of development proposed under the TU MSHCP.

1G.2.5 Effects of Combined Cumulative Development on Tejon Ranch on Connectivity

Commenters stated that the two areas of proposed development on Tejon Ranch (the TMV Project and Centennial), and a third area on the San Joaquin Valley floor adjacent to I-5, which is included as a potential future development area in the Ranchwide Agreement but which has no proposed development project planned or pending (Grapevine), form a solid band of human development and activity that is much too large and too close together, and would block the entire span of condor habitat connecting the southern Sierras to the coastal ranges.

For the reasons discussed previously, the Service does not believe the TMV Project or other potential development adjacent to the Covered Lands would act as a barrier to condor movement, such that it would preclude access to other areas of their historic range. Figure 4.1-1 in this Supplemental Draft EIS shows the relationship among the three developments identified by the commenter (i.e., the proposed TMV and Centennial projects and the potential future Grapevine development area) and the 240,000 acres (90%) of Tejon Ranch open space that would be protected under the Ranchwide Agreement, a substantial portion of which would also be protected in perpetuity under the proposed TU MSHCP.

As noted above, condors regularly fly over developed areas as part of their home ranges. The reader is directed to the responses above regarding the function of Tejon Ranch as linkage between historic condor habitat areas east and west of the ranch and information regarding current condor flyover behavior in developed areas.

1G.2.6 Flight Line Data and Proposed Development

A commenter stated that flight line data developed and depicted in Figure 9 of Cogan (2009), California Condor Activity in the Tejon Ranch Region, which was attached as Exhibit B to Comment Letter O4, demonstrates that the combined effect of the TMV Project, Grapevine, and Centennial projects would be a significant intrusion and connectivity barrier to California condors. Figure 9 to the Cogan Report shows visual data for feeding activity between 1982 and 1987 in Tejon Ranch in relation to nesting areas and the visual flight line data. The commenter states that the figure highlights the multiple activities (nesting, flying, and feeding) in the California montane chaparral and woodland ecoregion and suggests how effects on Tejon Ranch could affect nesting areas 25 miles to the south.

The flight line data used in Figure 9 of the Cogan Report are based on 1982–1987 data used for the 1993 master's thesis (Cogan 1993); the data were generated in part by U.C. Santa Barbara (UCSB) students and are known as the UCSB Database. That thesis identified a number of problems with the 1982 through 1987 data, including the fact that the coordinate data had to be significantly manipulated before it could be converted for GIS purposes. The thesis also noted several observational biases and inaccuracies in the UCSB database. Neither the Cogan Report nor the master's thesis provide any information regarding: (a) the accuracy of the transcriptions of the identified flight lines to GPS coordinates; (b) errors related to pilots mapping condor routes on county-scale maps while flying an aircraft; (c) observer biases; (d) the repetition of any single line

over time or by more than one bird to identify routes that might indicate a sustained flight path rather than short-term meandering; (e) potential effects that the aircraft itself may have had on the flight behavior of a condor being tracked; (f) the percentage of the flight lines represented by each of the six tracked condors; and (g) whether the flights were sampled in a consistent manner or, as is likely, whether Tejon Ranch and adjacent areas were the focus of aircraft study because of their relatively easy airport access.

The Service has considered the 1982 through 1987 flight line dataset noted by commenters, as well as the analysis in the USGS condor study completed in 2010 (Johnson, et. al., 2010(Appendix I), and the Service's additional field experiences and ongoing analysis of condor data. As described in this and other master responses (i.e., Master Response 1E, California Condor Loss of Foraging Habitat and Master Response 1B, California Condor Critical Habitat), the Service has concluded that California condors would continue to use Tejon Ranch, and the ranch would continue to serve as important roosting and foraging habitat, even after development of the TMV Project and implementation of the proposed TU MSHCP.

1G.2.7 Condor Range Mapping

Commenters stated that the Draft TU MSHCP minimizes the importance of Tejon Ranch for California condor movement and other regional lands and that the range map (Figure 3.1-5 in this Supplemental Draft EIS and Figure 4-1 in the TU MSHCP) is inaccurate because it shows large areas of the San Joaquin Valley toward Bakersfield as part of the condor range, thus reducing the relative importance of Tejon Ranch, even though the text in the Draft TU MSHCP states that condors do not use the San Joaquin Valley floor to any significant extent. One commenter stated that Figure 1 of the Cogan report (Cogan 2009) is much more accurate.

As noted in the response in Section 1G.2.6, Flight Line Data and Proposed Development, above, the Service agrees that Tejon Ranch is an important habitat linkage for California condor movement between areas to the east and west of Tejon Ranch. As discussed in Section 3.1.6.3, Biological Resources, in Volume I of this Supplemental Draft EIS, the range of the condor prior to the onset of the decline of the species in the mid-19th century extended across the western United States. The historic range of the California condor depicted in Figure 3.1-5 of this Supplemental Draft EIS and Figure 4-1 of the TU MSHCP was provided to the applicant by the Ventura office of the Service and is reflective of the likely historic range of the California condor as of the mid-20th century after a long period of decline, including occasional flights over the southern portion of the San Joaquin Valley, not the exact distribution within that range. While it is acknowledged that there may be slight discrepancies in the exact boundary of the range from one map to the next, this figure, as well as the USGS report and other analysis described in this and other master responses (i.e., Master Response 1E, California Condor Loss of Foraging Habitat and Master Response 1B, California Condor Critical Habitat), was considered as part of the Service's analysis of the TU MSHCP regarding potential effects on condors and condor critical habitat. The Service agrees that the current range of the condor does not generally include the San Joaquin Valley, although historically condors used the Central Valley floor prior to modern agricultural operations, traveling up to 40 miles from the foothills (Belding 1879, Stillman 1967). They now appear to avoid this area due to lack of food sources. This Supplemental Draft EIS and the Draft TU MSHCP have been updated to include the most recent and accurate data on condor movements and incorporate the analysis conducted by the USGS as well as the most recent 2010–2011 GPS data.

1G.2.8 Use of Buffers Around California Condor Occurrence Data

Commenters asserted that California condor occurrences based on GPS data should be buffered by a 0.5-mile radius to address potential effects on condor behavior, and note that when these buffers are added, the three development areas on Tejon Ranch form a more complete barrier to condor movement. The commenters refer to the 0.5-mile buffer placed by Cogan (2009) around each GPS data point (Figure 14 in Cogan 2009), which results in the majority of the TMV Planning Area being covered by the buffer areas. The commenters indicate that while buffer sizes can be debated and may vary in relation to the type of habitat use in an area, the Draft TU MSHCP and Draft EIS do not consider buffers around condor location points.

Figure 14 (Cogan 2009) shows 0.5-mile buffers around all GPS data points, including flight points and points considered to be on-the-ground locations. The legend to Figure 14 states, "There is longstanding precedence to protect nesting and other condor activity areas ranging from 500 yards (0.28 miles) to 2.3 miles (see Text Box 1 for citations)." The Text Box 1 citations regarding buffers address nesting, roosting, and bathing sites. There is no empirical basis or precedent cited by the commenter for setting 0.5-mile buffers around flight locations for condors. Major highways, large portions of both rural and heavily urbanized communities and various mineral and agricultural production lands are well within 0.5 mile of condor flyover areas and such areas were included in the home ranges of most of the condors analyzed in the USGS study (Appendix A in Johnson et al. 2010), as discussed in the above responses. Therefore, buffering of all the GPS points without differentiating points as different behavioral categories (flying, roosting, or perching) is not appropriate. However, the Service does believe it is appropriate to include a distance of 0.5 mile from the proposed TMV Planning Area development footprint to address indirect effects associated with development, such as noise and visual disturbance. These indirect effects are described in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS, as well as Master Response 1A, California Condor Data and Habitat Use, Master Response 1B, California Condor Critical Habitat, and Master Response 1E, California Condor Loss of Foraging Habitat.