

# Master Response 4

## California Condor Food Availability Analysis

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Master Response 4 addresses comments on the approach used to assess the potential effects of the Tehachapi Uplands Multiple Species Habitat Conservation Plan (TU MSHCP) on food available to the California condor. Comments suggested that the analysis of future food availability for condor was flawed and overstates carrion that would be available and used by condors.

Table MR4-1 provides a list of commenters and a reference to the individual comment addressed by this master response. Refer to Chapter 4, Individual Responses to Public Comments, for a copy of each comment letter and responses to other substantive comments not addressed by a master response.

**Table MR4-1. Comments Addressed in Master Response 4**

<b>Comment</b>	<b>Commenter</b>
P-5-2	Snyder et al.
P-5-3	Snyder et al.
P-5-4	Snyder et al.
P-5-5	Snyder et al.
P-5-6	Snyder et al.
P-5-15	Snyder et al.

## Approach to Food Availability Analysis

As noted above, comments suggested that the analysis of future food availability for the condor was flawed because it did not consider several key assumptions, including that calculated food supplies may be used by other scavenger species; that many available carcasses are not attractive as potential food for condor (i.e., adult cattle carcasses are too difficult to penetrate); and that effective condor foraging is commonly limited by specific wind conditions, topography and other factors such that only a small fraction of the overall mapped foraging range of the species on which calculations of food supply were based can actually be used by condor at any time. The following summarizes the approach used for the food availability analysis in the Supplemental Draft Environmental Impact Statement (EIS), and addresses how each of the above assumptions were considered in that analysis.

As described in Section 4.1, Biological Resources, of the Supplemental Draft EIS, the U.S. Fish and Wildlife Service (Service) estimated the number of potential livestock carcasses produced within the approximate range of the southern California subpopulation of California condor based on reported cattle and sheep numbers from Kern, Los Angeles, San Luis Obispo, Santa Barbara, Tulare, King, and Ventura Counties. Counties that are occupied by the northern California subpopulation of California condor (Monterey and San Benito Counties) contribute additional carcasses that could support one wild population of 150 condors in their historic range in California, which would constitute one of the two wild and disjunct populations needed to meet the down-listing criteria of the California Condor Recovery Plan (U.S. Fish and Wildlife Service 1996). Native ungulate carcasses, wild pig carcasses, and any other carcasses condors may feed on in the range of both the northern and southern California subpopulations, also would contribute to the overall potential food base for 150 free-flying condors in California.

The figures presented in the Supplemental Draft EIS are an estimation of the livestock carcasses produced annually; they serve as a starting point for estimating potential food availability for California condor and are not intended as an absolute quantification of the available food base for condors. These figures are based on county livestock data available to the public, as well as mortality estimates of these livestock provided by the U.S. Department of Agriculture (2011). The Service also considered that an additional, but unknown, number of carcasses would be available from native ungulate and wild pig carcasses throughout the range of condor. Unlike for livestock, there is no reliable available information on the numbers and distribution of such carcasses.

On Tejon Ranch, the Service considered specific information regarding livestock and hunting to inform the food availability analysis. Specifically, the Service considered past grazing practices, which have been conducted at a historical average level of 14,500 head of cattle. Hunting records from Tejon Ranch further indicate that from 2001 through 2011, between 100 and 200 deer were hunted annually on the ranch and between 700 and 900 pigs were harvested on an annual basis (Tejon Ranchcorp 2012).

As acknowledged in Section 4.1, Biological Resources, of the Supplemental Draft EIS, not all livestock or other carcasses within the condor's range or on the Covered Lands are found and eaten by condors. Some carcasses may be disposed of by landowners, consumed by predators or other scavengers, 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 (U.S. Fish and Wildlife Service 1974, 1996; Wilbur 1978; Snyder and Snyder 2000). For these reasons, the Service cannot accurately predict what proportion of the estimated annual food base would actually be used by condors, nor the number of condors these available carcasses would support. Regardless, reasonable estimates, as provided in Master Response 1B, California Condor Critical Habitat, of the Supplemental Draft EIS, suggest that the overall food supply is well in excess of that needed to support a population of 150 free-flying condors in California.

The Service disagrees with the comments that state the EIS analysis was insufficient because it failed to consider that other scavengers outcompete condors for available food resources because of their relative abundance; because they may consume 100% of the available carcass biomass; or because condors are rarely the first species to arrive at a carcass and normally defer to other species. As noted by the commenter, the Service is not aware of any studies that apportion the biomass consumption of a given carcass by various scavengers other than condors, or that document such consumption as approaching 100%, whether or not other species arrive at a carcass prior to condors. Any conclusions suggesting that condors, therefore, are at a disadvantage with respect to other scavengers in terms of food availability and biomass consumption would be highly speculative. Condors have successfully competed with golden eagles, vultures, common ravens, coyotes, bears, mountain lions, and other scavenging fauna for over 40,000 years for available resources. In addition, because of their extensive wingspread and size, condors can travel large distances in a single day and, therefore, are able to search for food sources over a much larger area of land than most of their competitors. This has provided an opportunistic advantage to condors since they presumably can locate more carcasses in a given time period than their competitors. Furthermore, the recent decline of the species in the wild has been largely due to lead poisoning as a result of ingestion of lead ammunition, rather than an inability to compete with other scavengers. The Service has determined that the estimated amount of cattle and sheep carcasses (and an additional unknown number of native ungulates and wild pigs) within the range of the condor is adequate to support a recovering population of condors, despite competition with other scavengers.

Additionally, the Service disagrees that the EIS analysis should have distinguished between adult and calf carcasses as viable food sources because adult carcasses are more difficult to penetrate and, therefore, less accessible to condors. The analysis of potential food sources did not distinguish between adult cattle and calf carcasses because full-grown cattle carcasses also provide a source of food for condors. Despite the tougher hide on a full-grown cow compared to that on a calf, condors

have been observed feeding on adult cattle carcasses and penetrating the adult hides in the same fashion as they do with calves—through soft tissue orifices (Koford 1953). Numerous historical records exist of California condors feeding on full grown livestock carcasses, including cattle, deer, horse, and mule (Koford 1953; Wilbur 1978). The Service does recognize the benefits of Tejon Ranch's continuing cow and calf ranching operation in light of the historical importance of calves as food source for condors (Koford 1953; Wilbur 1978; Miller et al. 1965). The Service (1974) and Wilbur (1978) considered the cow and calf operation on Tejon Ranch to provide a crucial food source for condors. Calving on Tejon Ranch, both in the TU MSHCP Mitigation Lands and other conserved rangelands on the ranch, would continue under the TU MSHCP.

Regarding comments stating that the analysis was insufficient because it did not consider wind conditions in evaluating available foraging habitat, regardless of the availability of food supplies, the Service agrees that not all reported livestock carcasses or other potential carcasses necessarily occur in areas conducive to condor foraging, such as areas with favorable winds and associated topography. However, the Service disagrees that only a fraction of the condor's range qualifies as good foraging habitat due to adverse wind conditions (e.g., in grasslands that have low ambient wind conditions). It is important to note that the mapped range of the condor in California primarily encapsulates mountainous regions including the Central Coast Range, Transverse Range, and southern Sierra Mountains. These areas are characterized by moderate to steep topography and variable winds that condors need to move about and forage. While on any given day, conditions may be such that condors may not be able to access a particular carcass due to low winds or flat terrain (such as grasslands in a valley between ridges), such variability of winds in montane areas is consistent with the opportunistic nature of the species. As noted above, condors also have the ability to forage over vast distances in a relatively short period of time, such that if a particular carcass may not be accessible in one location, opportunities to access food in other areas with appropriate conditions may be available.

One commenter noted that critical habitat located within the TMV Planning Area provides the most consistently favorable wind conditions for condors in the region. Although the Service is aware that condors regularly occur outside the TMV Planning Area, it is not aware of any specific information or data that suggests the TMV Planning Area provides condors with more consistently favorable wind conditions than the conserved areas of the Covered Lands.

The food availability analysis in the EIS is based on the best information available to estimate livestock mortality in the range of the condor (i.e., annual county agricultural reports) and specific information on grazing and hunting from Tejon Ranch. While it is difficult to predict what proportion of the reported livestock mortality or other sources of non-proffered food would occur in areas accessible to condors, the Service can confirm that condors are currently locating and feeding on non-proffered food sources, including livestock and hunting carcasses, on Tejon Ranch and elsewhere throughout their range (U.S. Fish and Wildlife Service unpublished data 2010, 2012). Therefore, it is clear that livestock and native ungulate carcasses do occur in areas accessible to condors.

Further, and more importantly, the Service does not anticipate that the reduction in foraging habitat for condors on Tejon Ranch under the proposed TU MSHCP would decrease the food base for condors on the ranch because hunting and grazing would continue on the ranch through the permit term at levels comparable to historic, average conditions (i.e., approximately 14,500 head of cattle, with yearly variation to account for rangeland conditions). Review of geographic positioning system (GPS) observations of foraging condors on the Tejon Ranch indicate that condors use foraging habitat throughout the ranch to find food, including areas in the TU MSHCP Mitigation Lands above 2,000 feet in elevation and areas lower in elevation outside the Covered Lands but conserved under the Ranchwide Agreement. Foraging by condors on Tejon Ranch is not limited to suitable foraging habitat mapped in or adjacent to the Tejon Mountain Village (TMV) Specific Plan and Oso Canyon Development Envelopes. Available data do not indicate that the foraging habitat that would be lost

in these development envelopes is more important to condors than other areas of suitable foraging habitat that would remain available to condors on the ranch. The commenter did not provide any data to the contrary. Given that grazing and hunting on Tejon Ranch is expected to remain consistent with historic average levels through the permit term under the TU MSHCP such that food sources would be consistently available to condors throughout the ranch (in suitable foraging habitat in the TU MSHCP Mitigation Lands and other lands conserved under the Ranchwide Agreement), the Service believes that Tejon Ranch would continue to function as an essential foraging area for condors.

The Service agrees with the comment that the continued availability of reliable and consistent food sources for condors on Tejon Ranch is likely to increase in importance if the overall production of livestock in the range of the condor declines over time. However, just as condors in central California do not feed on Tejon Ranch regularly, the Service does not anticipate condors breeding and occupying other areas of their historical range would feed exclusively on Tejon Ranch. Depending on seasonal variations in the current food supplies resulting from hunting, calving seasons, lambing seasons, and other factors, use of Tejon Ranch by condors is likely to increase and decrease seasonally. Such variability in food availability is consistent with the opportunistic scavenging and far-ranging foraging behavior characteristic of California condors (U.S. Fish and Wildlife Service 1974, 1996; Wilbur 1978; Snyder and Snyder 2000). There is no evidence that the reasonably foreseeable future projects considered in the cumulative effects analysis would reduce the condors range to Tejon Ranch, Wind Wolves Preserve, Hopper Mountain National Wildlife Refuge, and the Bitter Creek National Wildlife Refuge, as stated by one commenter.

In summary, under the TU MSHCP, hunting and grazing would continue in most of the Tejon Ranch critical habitat unit, as well as in other areas of foraging habitat on Tejon Ranch. Ranching would continue through the permit term consistent with past grazing practices, which have been conducted at a historical average grazing level of 14,500 head of cattle, both in conserved areas in the Covered Lands, and areas conserved under the Ranchwide Agreement outside the Covered Lands. Thus, even with the removal of foraging habitat as a result of development in the TMV Planning Area, the overall food base for condors on Tejon Ranch is not expected to decline; rather, the important historical contribution of Tejon Ranch to the condor's food supply would continue under the TU MSHCP and remain relatively constant over the 50-year permit term.