

# Drought and downing equal vulture supermarkets

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A Lappet-faced Vulture suns after a meal at a wildebeest carcass. Credit: Corinne Kendall/WCS

African vultures are famous for quickly finding carcasses; so much so that they are considered clairvoyants in parts of Africa. But just how do vultures know where to find food across vast regions in the first place? In a paper appearing in the January 8th edition of the journal *PLoS ONE*, Dr. Corinne Kendall of Columbia University and African Vulture

Technical Advisor with the Wildlife Conservation Society (WCS) and colleagues have discovered that vultures, rather than aggregating where animals are most abundant as previously thought, instead focus on areas and conditions where animals are most likely to die.

For decades, scientists have assumed that [vultures](#) would follow the largest food source available. In the case of the Mara-Serengeti ecosystem, this would be the migratory wildebeest herds, which in recent years have numbered in the millions. Instead, this study found that two of the three species of vultures studied preferentially selected areas of low rainfall and thus presumably high prey mortality.

Data were collected from GSM-GPS telemetry devices attached to three species of vultures in Mara-Serengeti ecosystem of East Africa. The devices send text messages back to the researcher detailing individual bird's location and altitude. The data revealed that vultures focused on the immense wildebeest herds only during the dry season when hundreds of wildebeest die each day from starvation or drowning during their dangerous river crossings.

"Our study shows that vultures seek out areas not where wildlife are most abundant, but where they are most likely to die," said lead author Corinne Kendall. "This shows that for vultures, prey mortality is more important than prey abundance."

The researchers found that for the rest of the year, vultures travel enormous distances in search of food.

Kendall said: "What has really surprised us is what the vultures do the rest of the year. From November to June, the vultures travel all over Kenya and Northern Tanzania, with some individuals using an area of more than 200,000 square kilometers (77,000 square miles)—that's a region larger than New Jersey and New York State combined or roughly

the size of the entire United Kingdom."

As one of the only obligate scavengers in the animal kingdom, vultures are specially adapted to feed on dead animals, or carcasses.

Keith Bildstein, Director of Conservation Science at Hawk Mountain Sanctuary, and a study co-author said: "We knew that vultures use efficient soaring flight, keen eyesight, and even used information from each other to find food, but we had a poor sense of how they decide where to search on a landscape scale."

In recent years, these large movements have spelled disaster for the birds. White-backed vultures and Ruppell's vultures, two of the species studied, have been up-listed to "Endangered" status by the IUCN due to dramatic declines seen throughout the African continent.

Munir Virani, Director of Africa programs for the Peregrine Fund and co-author of the study, said: "Because the vultures spend so much time outside of protected areas, they are extremely susceptible to poisoning, which often occurs when ranchers put pesticides on the carcasses of cows and other animals killed by lions or hyenas. You can imagine how difficult it is to protect a species that uses not just multiple parks, but also spends a lot of time in areas that are completely unprotected."

But protecting these critical scavengers, which help to keep the African savannas clean and reduce the risk of rabies and other diseases, is now the focus of a new effort by the Wildlife Conservation Society, the Peregrine Fund, and Hawk Mountain Sanctuary.

Dr. Steve Zack, Coordinator of Bird Conservation at WCS, who is working with Dr. Kendall and others in shaping a conservation effort to revive vulture populations while eliminating the poisoning, said: "This information is critical to understanding the scale of effort needed to

protect vulture species in East Africa. The new knowledge makes clear that engaging local communities well beyond park boundaries is needed to confront and eliminate the poisoning."

**More information:** [dx.plos.org/10.1371/journal.pone.0083470](https://doi.org/10.1371/journal.pone.0083470)

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