

vulture culture

Social systems and conservation

Few groups of birds face as formidable an array of threats to their existence as vultures. Exposure to poisons, usually accidental but sometimes deliberate, has caused severe declines in vulture populations globally. Collisions and electrocutions associated with electrical infrastructure, historically involving transmission-line pylons but now increasingly also collisions at wind-energy facilities, have exacted a heavy toll, as has trade in traditional medicine, particularly in Africa. These multiple threats are compounded by ongoing habitat loss and reduced food availability, while the far-reaching impacts of climate change loom on the horizon.

The immediacy of threats like poisoning, collisions and habitat loss makes it understandable that less attention has been paid to more subtle aspects of the ways in which human activities impact vultures. One such aspect concerns how differences between species in terms of social systems and interactions between individuals affect their vulnerability to human activities. The need for a much better understanding of vulture sociality in the context of their conservation was recently highlighted by Thijs van Overveld and his colleagues in a review paper on the topic.

Vultures are highly diverse in terms of their social systems. Nesting habits, for instance, vary from pairs actively defending territories in species like Bearded Vulture to the massive breeding colonies of *Gyps* species such as the Cape Vulture. Foraging habits are



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also highly variable. Some species, including the Andean Condor found in South America, usually forage alone or in pairs, but many others gather in large numbers at carcasses. For these, gatherings at carcasses and roosting at communal sites is vital for finding mates and keeping up to date with who's who in the social hierarchy.

The authors highlighted several subtle but consequential ways in which negative effects of human activities can be compounded by social differences between vultures. In social species like the Cape Vulture, population declines caused by poisoning and other factors can result in reduced social cohesion and greater disconnectness among individual birds. These changes potentially decrease the likelihood of individual birds locating carcasses to feed on.

Van Overveld et al also highlight problems that can arise when reduced availability of natural food causes vultures to become increasingly reliant on supplementary sources such as dumps or vulture restaurants. The predictability and small number of these sources compared to natural carcasses is thought to disadvantage smaller-bodied species that, under natural conditions, make greater use of small

In White-backed Vultures and other vulture species with a high degree of sociality, human impacts can negatively affect social cohesion. Reduced connectedness between individuals can make it more difficult for individuals to locate carcasses.

carcasses or arrive at larger ones before the bigger species do, affording them an opportunity to feed before having to compete for scraps. Regularly gathering at the artificial feeding sites may also bring other hazards, including elevated rates of transmission of pathogens and parasites.

The review underscores the need to incorporate aspects of vulture social systems in conservation and management planning and identifies research areas that will aid in informing moves in this direction. It also reminds us of the complexities of vulture conservation in an increasingly human-influenced world, where multiple threats interact to make the future of these magnificent birds very uncertain indeed.

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Reference

Van Overveld T et al. 2020. 'Integrating vulture social behavior into conservation practice.' *Condor: Ornithological Applications* 122: 1-20.