

Failing to see the way ahead: Power line peril for South Africa's birds

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Ornithologists from the University of Birmingham have joined forces with researchers from the University of Cape Town to come up with a new way of tackling the problem of birds colliding with power lines, which results in a high number of fatalities in Blue Cranes, South Africa's national bird, and Ludwig's Bustards.

They have discovered that, when in flight, these birds may simply not be looking where they are going and that the best solution to reduce these deaths is to divert birds from their flight path rather than try to warn them that power lines lie ahead.

12 per cent of the blue crane population and 30 per cent of the Ludwig's bustard population are killed annually due to collisions with power lines and there is concern that this high mortality rate is unsustainable, and will ultimately threaten the survival of these already rare and endangered species.

Ornithologists from the University of Birmingham visited South Africa to find out why these birds are particularly prone to crashing into these obstacles. They discovered that cranes and bustards have a field of vision that has evolved so that they can scan the ground as they are flying, looking for areas to forage, roost and for other birds to mate with. However, when in flight, as they pitch their heads to look downwards, they are rendered blind in the direction of travel.

As South Africa's economy grows, more and more power lines and pylons are being erected that cross from Johannesburg to Cape Town, straight through some of the most important habitats for these species. Currently the preferred solution to the problem of bird collisions is to hang objects from the cables, but the Birmingham ornithologists say these devices are only effective if the birds always look where they are going. Not looking means that no matter how large or sophisticated the devices that are hung on the wires, the birds will often not see them as they may simply be looking the wrong way.

To reduce the number of bird deaths the researchers have suggested decoys that would encourage the birds to land before getting too near the cables.

Professor Graham Martin, an ornithologist from the University of Birmingham's School of Biosciences, says, 'These birds are dying at an unsustainable rate, and it is recognised that the level of mortality is unacceptable. We have suggested that as the birds are not looking where they are going then they should be diverted from their flight paths using decoys. This would mean constructing attractive foraging or roosting areas near sites where bird and power line collisions are particularly frequent. The birds would see these, and see other birds, and would then be more likely to land. This solution takes into account the natural behaviour of the birds. It's a matter of working with the birds and recognising what they can be expected to see rather than putting something up and saying 'You must look at this.'

The ornithologists' recommendations have implications for bird populations globally. Professor Martin continues, 'Many millions of birds are killed by power lines around the world, and wind turbines are also becoming more and more of a problem for birds. Our recommendation to build foraging areas would tap into the birds' natural behaviour patterns by diverting them away from these obstacles – this should help to mitigate the number of bird deaths caused in this way.'

Blue cranes are the national bird of South Africa. Most of the total world population of 26,000 blue cranes is in South Africa and they are classified as a vulnerable species. The total Ludwig's bustard population is 56,000 – they are classified as endangered.

Notes to editors

This research was recently published in the journal Biological Conservation: www.elsevier.com/locate/biocon (<http://www.elsevier.com/locate/biocon>) 'Bird Collisions and power lines: Failing to see the way ahead?' doi:10.1016/j.biocon.2010.07.014

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