



In one small population of the Golden Conure that is constantly monitored, electrocution deaths have been recorded.

Photo: Marcelo Vilarta

# Power lines

*that kill endangered species*

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Renewable energy is one of the biggest solutions to slowing down climate change. Unfortunately the wind farms, power lines and other structures necessary to deliver renewable energy are killing some of the most critically endangered birds on the planet. Large birds are especially at risk and not only due to collisions with power lines.

Parrots, because of their often playful nature, are greatly at risk of electrocution. This occurs when an animal simultaneously touches two-phase conductors or one conductor and a grounded device on a pole. These tragedies are expected to be more common with shorter distances between the electrified elements due to expanding human populations. Electrocution can now be a major cause of fatality in species that use poles or wires for perching and nesting sites.

It is an overlooked threat in many parts of the world, such as the Neotropics where a strong expansion of the energy grid is expected during the next decades. Unfortunately, death by electrocution is already having an impact on the

endangered Lear's Macaw (*Anodorhynchus leari*) in north-eastern Brazil.

## Major cause of death for Lear's Macaw

It had climbed back from the brink of extinction due to the excellent work of several organisations to reduce the threats to its survival. And now this. Lear's Macaws often perch on power lines, peck at them and interact with the elements. During long-term surveys between 2008 and 2021, a total of 31 Lear's Macaw carcasses were recorded by villagers under power lines and very close to the poles, although more macaws might have died and their bodies remained undiscovered. External injuries were confirmed by post mortem in at least 20 per cent of them with other injuries including burned areas on the body, beak and feathers. Other carcasses had internal injuries compatible with electric shock.

Energy poles provide alternative perching places for sentinel birds in areas with a progressive shortage of tall trees once used by macaws. The number of fatalities is increasing and more than one macaw died on three reported occasions. Unfortunately, most fatalities (74 per cent) occurred during the breeding season and one locality (Euclides da Cunha) was responsible for 58 per cent of the deaths. This may





now be the major cause of human induced mortality for Lear's Macaw, being larger than the losses due to killing by farmers due to crop losses in the past and the theft of young birds from the nesting cliffs.

What can be done? Kilma Manso told me that attempts are being made to start a legal process against one power company for failing to modify the structures of its power lines to avoid more macaw deaths. It has already been widely reported that Voltalia plans to build a huge wind farm near the macaw's main breeding areas.

Representing the conservation organization ECO, that she works tirelessly for, she told me: "These will be hard battles to fight, but be completely sure that for ECO's team, they are our top priority goals. For me, they are personal battles and nothing, absolutely nothing, will change my ethical values nor my personal commitment for the protection of wildlife and its habitat."

In January 2022 Kilma was preparing to travel to the regions with the highest number of electrocutions to carry out a survey for the Public Attorney. She will identify the power lines which should take priority for immediate changes in their structures. The power company will be fined if it does not act on the recommendations.

Kilma sent me a number of heart-breaking photographs of burnt, dead Lear's Macaws under power lines. It is a heart-breaking sight, and just one of the terrible consequences of human incursion into wildlife habitats. We know about these deaths because the population of Lear's Macaw is constantly monitored. Similar tragedies must be happening to other species, but there are no records because there are no field studies.

However, in one small population of the Golden Conure (*Guaruba guarouba*) that is constantly monitored, electrocution deaths have been recorded. This species has been the subject of two reintroductions from birds bred at the Lymington Foundation, in the Atlantic forest in the state of São Paulo. In 2017, they teamed up with IDEFLOR-Bio, from Belém, Pará state, Brazil, to start the first attempt to reintroduce the Golden Conure back into the wild. The first group was sent to Belem in August 2017, consisting of 14 birds, and the



second group of 10 individuals was sent in May 2018. Sadly two of the birds from the first group were electrocuted.

The Utinga State Park, located in Belém, Pará state, has much lowland rainforest, connected to the continuous forested area to the east, the Guamá River to the south, and the city to the west and north. The area is constantly under surveillance by both private security and the public environmental police, so the main causes for the Golden Conures' extirpation, which were habitat loss and capture, are controlled in this area (Vilarta *et al*, 2021). As I write this in January 2022, more birds were awaiting imminent release and some had already been fitted with radio transmitters.

Unfortunately, many other large bird species are dying worldwide. In Ethiopia, the National Electrification programme has failed to use bird-safe designs in its powerlines, despite the fact that these designs are readily available. Surveys found





34 electrocuted vultures along 227km of powerlines. Electrocutions often cause power outages. The declining vulture populations results in a loss of the 'vultures' environmental clean-up' services. It is in everyone's interest to prevent these horrendous deaths.

However, one of the world's rarest birds may be saved from extinction thanks to a new initiative to bury power lines across its last breeding stronghold in India. As few as 100 Great Indian Bustards (*Ardeotis nigriceps*) survive, almost all in Rajasthan's Thar Desert. The species was listed as Critically Endangered in 2011 and continues to decline. Although excessive hunting, habitat destruction and disturbance were largely to blame for its near-complete extirpation from the rest of India, the biggest current threat to the few remaining bustards in Rajasthan is collision with power lines.

The Thar Desert has become a hot-spot for renewable energy, with wind and solar energy projects to satisfy India's burgeoning demand for power. Wind farms and associated power lines and other structures are proving fatal for the bustards, which are among the world's heaviest flying birds. The Wildlife Institute of India estimates that 18 Great Indian Bustards die each year due to collision with power lines – almost a fifth of its tiny population.

The Rajasthan Forest Department has a breeding programme in order to eventually release young, but before that happens, their habitat must be made secure (Law, 2021). ■

**References**

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Photographs of Lear's Macaws by courtesy of Kilma Manso of the conservation organization ECO. Various sympathetic farmers photographed the electrocuted macaws on their properties. I acknowledge their help and that of Kilma Manso. You can read about her inspirational work in my book *Female Heroes of Bird Conservation*.

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