

death trap

he Martial Eagle project continues to make strides in determining the causes driving the decline of Africa's largest eagle in protected areas such as the Kruger National Park. Fitztitute PhD student Rowen van Eeden and his supervisor Dr Arjun Amar hypothesised that perhaps the most important factor driving these declines was the high mortality of juveniles beyond protected areas when they disperse in search of vacant territories (African Birdlife, July/August 2013).

The long-range dispersal of juveniles has now been well established using GPS tracking devices (*African Birdlife*, March/April 2015), confirming previous findings from re-sightings and recoveries of ringed juveniles that revealed that Martial Eagles often disperse far from their natal site. The tracking data show that after leaving their natal territory, young Martial Eagles traverse areas of up to 6500 square kilometres and many immature birds from Kruger spend more than half of their time outside protected areas. Here they face a suite of threats that could limit the pool of birds available to recruit into the park.

Even more worrying, however, was the discovery that at least some adult birds, which were assumed to be more sedentary than immatures, also travel considerable distances and frequently venture beyond Kruger. Many of these mobile adults are presumably 'floaters', birds waiting for a territory to fall vacant. For instance, one adult female ranged far into Mozambique, where she was killed.

Sadly, this was not an isolated incident. In April 2016, a 4.6-kilogram female Martial Eagle was fitted with a GPS tag in Kruger Park. Her capture and the attachment of the tracking device were recorded by a film crew documenting the study for a British television programme narrated by well-known TV presenter Steve Backshall. A few weeks later the bird ventured into Mozambique, and shortly afterwards her signal stopped moving, 160 kilometres from where she had been tagged.

Rowen and a colleague set off to the bird's last-known location, in a remote corner of Mozambique, currently in the midst of renewed civil unrest. They had to battle through dense bushveld in an area with few roads. Eventually, an hour-long walk into the bush led them to a small game trail where, after searching through the long grass, they found the remains of the eagle. Its tail was sticking up between two bushes and its neck was trapped in a snare that had probably been set to catch small antelope. Most people in the small villages in the area rely on cattle herding, subsistence farming and hunting to survive.

The death of a second adult Martial Eagle from Kruger at the hands of rural communities in Mozambique is cause for grave concern, especially as only eight adults have been tagged with GPS transmitters. Without GPS tracking, this cause of mortality would go undetected.

A healthy population relies on having adults available to occupy vacancies created by the deaths of breeding birds or to



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Rowen van Eeden examines the Martial Eagle carcass.

challenge ageing territory holders. A large number of non-breeding adults probably signals a relatively stable population. We don't know enough about the population structure of Martial Eagles in Kruger, but the unnatural deaths of adult floaters may be even more important in terms of affecting population dynamics than the mortality of immature birds.

Our findings confirm that even the largest protected areas may be insufficient to conserve wide-ranging predators and that conservation efforts are needed beyond park boundaries to safeguard them.

We are extremely grateful to the Abax Foundation for funding to allow us to follow up tagged birds whose devices stop transmitting their movements.

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