

## A survey of road-kills, with special emphasis on birds

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Road-kills are a sad and unfortunate cause of mortality in birds and other animals. Not many quantitative studies have been carried out on the effect that these deaths are having on species' populations, although it is generally considered to be negligible. This paper examines some results from a survey of animal road-kills undertaken during September 2002, with particular attention to birds.

During a two-week, 3000 km "roadshow" around South Africa, covering six provinces (Free State, Gauteng, Limpopo Province, North West, Northern Cape and Western Cape), we counted the number of road-kills on specific sections of road. Most of the observations took place during the afternoon (the time we travelled between towns), except on the first day which entailed travelling almost all day. We were most alert for road-kills on the first day and stopped for every bird to record the species where possible. On subsequent days we kept a lookout for road casualties but on most afternoons saw only the occasional flattened bird. On three afternoons some fresh carcasses were seen.

A summary of road-kills that we encountered on specific sections of road is given in Table 1. The Helmeted Guineafowl was found early in the morning. It was in the centre of the road and could not have been struck long before we got there. The Crested Francolin was found on a tarred road between Baltimore and Marken – game farms were on either side of the road. The owls were found in the vicinity of Deneysville. The Pied Starling was found in two pieces – the head and breast lay a metre away from the hind body and tail. No other birds were found to be severed in this way. One of the Cape Weavers and the Cape Sparrow were found on the N1

next to a picnic site with eucalyptus trees. The House Sparrow was found in a suburb on the outskirts of Polokwane (Pietersburg). No ringed birds were found.

Other animal road-kills were recorded incidentally for comparison. A total of 19 mammals were recorded, ranging from mice to mongooses to large dogs. The only reptiles found were two snakes.

*Position:* For most of the birds we recorded the position on the road. Eleven of the birds were found on the left hand side of the road and 6 on the right side. The position was divided into 4 categories: 1 on the verge, 7 in the emergency lane, 6 in the main traffic lane, and 4 in or near the centre of the road.

*Density:* The number of dead birds was c. 1-2 birds/100 km on the different stretches.

The bird species found varied widely. Weavers and bishops are often found in flocks next to roads and are also often killed by cars. The Red Bishop was the most frequently found bird in our survey. The SAFRING database lists 131 species as having been recovered next to roads. The most frequently recovered species include doves and raptors (Table 2).

While some were found on the right hand side, it is possible that we were biased to seeing birds on the left hand side. Only one bird was found on the verge (i.e. off the road) and this must be due to reduced visibility. The verge varies from non-existent to wide and covered in grass, or open ground.

Siegfried (1966) surveyed a Stellenbosch road for casualties for two years. He found, on average, a dead bird every 108 miles (0.6 birds/100 km). Siegfried found the highest roadkill mortality in the breeding season; in rural parkland rather than urban or suburban areas; and on main roads

(with higher traffic density and higher travelling speeds) rather than secondary roads. He concluded that road-kills are unlikely to be a significant cause of mortality for birds, except in the case of owls. This is supported by an article in the Deneysville local newspaper (Anon. 2002) that highlighted owl road-kills in the Deneysville and Oranjeville districts. (*As with mammals, all nocturnal species are likely to be more affected as a result of the blinding effect of headlights. Spotted Dikkops and nightjars are also frequent victims.* - Ed.)

An interesting project would be to survey different parts of southern Africa to see which stretches of road have the highest densities of road-kills ('road-kill hotspots'), particularly for owls and birds of prey, and to see if there are any seasonal fluctuations in numbers of road deaths through the year. It would also be interesting to see if road-kill densities increase during peak holiday seasons (i.e. when traffic densities are higher) and decline outside these periods. Repeat observations on particular stretches of road

are likely to yield the most useful results. The age and sex of the birds should also be recorded, where possible. (*See the articles on owls and sugarbirds in this issue.* - Ed.) Once a carcass has been recorded, it should be thrown well off the road to avoid recording it more than once.

This article will hopefully encourage readers and birders to collect similar information during their travels around southern Africa and to publish their findings in order for us to have a greater understanding of this cause of mortality for many of our birds and mammals.

**Anon. 2002.** Over 20 owls killed on main roads near Deneysville. Deneysville News 3(2), September 2002. p.2.

**Siegfried WR. 1966.** Casualties among birds along a selected road in Stellenbosch. Ostrich 37:146-148.

More details on the ADU roadshow may be seen at: <http://www.uct.ac.za/depts/stats/adu/safring/road2002.htm>

Date	06/09/2002 Cape Town - Bloemfontein 1000 km	07/09/2002 Bloemfontein - Deneysville 320 km	08/09/2002 Deneysville - Johannesburg 106 km	14/09/2002 Polokwane - Ellisras 270 km	Total 1696 km
Species					
Helmeted Guinea fowl	1				1
Crested Francolin				1	1
Marsh Owl		1			1
Barn Owl		1			1
Pied Starling	1				1
Red-eyed Bulbul	1				1
Karoo Robin	1				1
Cape Weaver	2				2
Red Bishop female	3				3
House Sparrow				1	1
Cape Sparrow	1				1
Raptor/owl	2				2
Dove				1	1
Sparrow			1	1	2
Unidentified birds		1	1	2	4
<b>Total birds</b>	<b>12</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>23</b>
<b>Birds per 100 km</b>	<b>1.2</b>	<b>0.9</b>	<b>1.9</b>	<b>2.2</b>	<b>1.4</b>

**Table 1.** Bird road-kills on selected routes in South Africa

Species		N
Laughing Dove	<i>Streptopelia senegalensis</i>	28
Pale Chanting Goshawk	<i>Melierax canorus</i>	25
Spotted Eagle Owl	<i>Bubo africanus</i>	24
Hartlaub's Gull	<i>Larus hartlaubii</i>	18
Steppe Buzzard	<i>Buteo buteo</i>	17
European Swallow	<i>Hirundo rustica</i>	16
Blackshouldered Kite	<i>Elanus caeruleus</i>	14
Jackal Buzzard	<i>Buteo rufofuscus</i>	14
Cape Weaver	<i>Ploceus capensis</i>	13
Olive Thrush	<i>Turdus olivaceus</i>	12
Cape White-eye	<i>Zosterops pallidus</i>	12
Rock Kestrel	<i>Falco tinnunculus</i>	11
Redwinged Starling	<i>Onychognathus morio</i>	11

**Table 2.** Numbers of ringed birds recovered as hit by car or found next to roads in the SAFRING database. Only species with more than 10 recoveries are listed

## Coastal breeding site of Blue Crane *Anthropoides paradiseus*

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The nest of the Blue Crane is usually a shallow scrape in short grasslands or cultivated lands, and on bare ground (Allan 1993; Maclean 1993).

In October and November 2001, V.L.W. observed a pair on three occasions at a small saltpan south of Elands Bay on the west coast. This is the breeding season for the species in the Western Cape and one of the pair was seen incubating. K.A.S. and V.L.W. visited the site in January 2002. The site was abandoned and, although no signs of eggshells were found, a shallow scrape and feathers were found. Using a GPS reading taken at the nest site, the distance from the sea was calculated at 300 m.

In 1984, Ryan (1985) recorded the species nesting on slacks between dunes in an area stretching from Waenuiskrans to Koppie Alleen on the south coast. While no mention of the distance between sea and nests was made in the article, Ryan (pers. comm.) indicated that "the nests were c. 150 m above the high tide line, in amongst moderately

vegetated dunes". This places these nests closer to the sea than the nest observed in the saltpan. The nest observed in the saltpan is, however, the only known recorded nesting attempt within a saltpan.

Crane eggs are large, and common predators of crane eggs do not remove the eggs from the nest site (K.A.S. pers. obs.). It therefore seems unlikely that eggs were laid in this nest.

**Allan D.G. 1993.** Aspects of the biology and conservation status of the Blue Crane *Anthropoides paradiseus*, and the Ludwig's *Neotis ludwigii* and Stanley's *N. denhami stanleyi* Bustards in southern Africa. In: MSc Thesis, Univ. Cape Town.

**Allan D.G. 1997.** Blue Crane *Anthropoides paradiseus*. In: The atlas of southern African birds. Vol. 1: Non-passerines. Harrison J.A., Allan D.G., Underhill L.G. Herremans M., Tree A.J., Parker V. and Brown C.J. (eds), pp. 314-315. Birdlife South Africa, Johannesburg.

**Siegfried W.R. 1985.** Relative abundance of Cranes (Gruidae) in the Cape Province. *Ostrich* 56(1/2/3): 101-103.

**Ryan P.G. & Dichmont J. 1985.** Blue Cranes breeding in dunes. *Promerops* 169: 12 - 12.

**Maclean G.L. 1993.** Robert's birds of southern Africa. 6<sup>th</sup> edition. John Voelcker Bird Book Fund, Cape Town.