

Deliberate poisoning: the biggest threat to *gamebirds*

Poisoning is a known threat to gamebirds, especially wintering flocks of Helmeted Guineafowl (Numida meleagris) in South Africa, and occurred on 14% of farms surveyed in the late 1990s by the National Gamebird Federation survey (Wolff, Bothma & Viljoen 2002). Most of this poisoning is deliberate. This article focuses on the deliberate poisoning of gamebirds and not incidental mortality through misuse of pesticides.

by Dr. Aldo Berruti, Tim Snow & Nicola van Zijl

We believe that the extent of deliberate poisoning in South Africa is underestimated by many farmers and other landowners. The first step in understanding the threat is an awareness of the scale of the problem and that deliberate poisoning can occur on any piece of land in South Africa. We use the details of poisoning reported to the Poison Working Group to show the extent of the problem, and give rough estimates of the numbers of gamebirds killed annually in South Africa.

Methods

The Poison Working Group (PWG) of the Endangered Wildlife Trust has been accumulating records of poisoning of wildlife across South Africa for nine years. This is part of the PWG's function of researching, documenting and understanding the use and misuse of poisons in order to influence policy and legislation, and to implement better control of poison through education of users.

We mapped the distribution of 162 poisonings across South Africa, record-

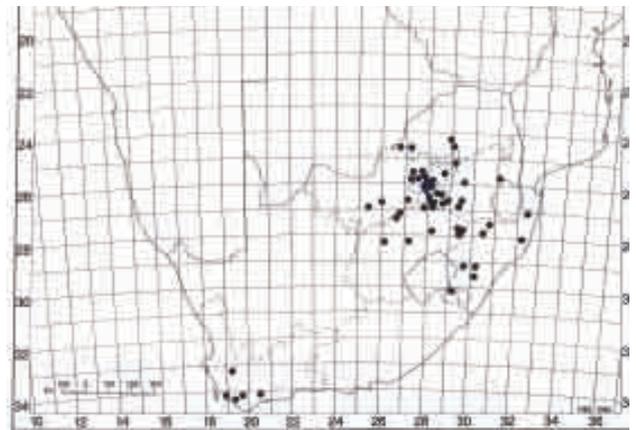
ed from December 2001 to December 2003, firstly in terms of those that affected gamebirds (guinea fowl, waterfowl, francolins and doves – figure 1) and secondly, all other species of wildlife separately (figure 2). Most of these incidents are judged to be deliberate poisoning of wildlife. Sixteen incidents in which the poisoning was known to be incidental, or of domestic pets, or the locality was uncertain were excluded from this analysis.

Results

Distribution of poisoning

Both maps showed reports of incidents right across South Africa, but with very few records from Eastern and Northern Cape, including the Karoo area as a whole.

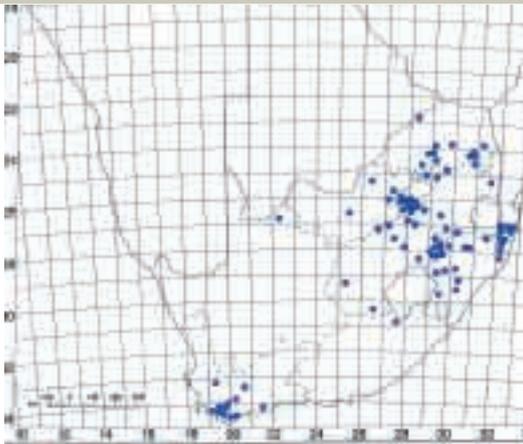
Interpretation of such reports depends on interpretation of the sampling bias. In other words, to what degree do these records of poisoning reflect the ac-



tual picture? It is known that the reports referred to the PWG are a very small subset of the actual total number of incidents, because discussions with virtually every farmer provide new instances of unreported poisoning. This is confirmed by the fact that the National Gamebird survey reported that 14% of surveyed farms experienced poisonings. This is a useful quantitative measure being based on annual returns. The number of farms in South Africa is about 60 000, and it is therefore estimated that poisoning takes place on about 9 000 farms annually.

As a further illustration of this perceived under-reporting; the PWG re-

Photos: **Tim**Snow & **Leon**Theron (EWT)



ceived 97 poisoning incident reports in 2002 and 65 such reports in 2003. This is estimated to be approximately one percent of all poisoning cases, which would equate to 8 100 poisoning incidents annually.

Is poisoning absent in the Northern and Eastern Cape? Generally, there are few waterfowl and guineafowl in these areas, and these are the primary targets of poisoning. In addition, the PWG is not as well established in the Eastern Cape compared to other areas of South Africa.

Another possible explanation is that there is limited cultivation of maize in particular in the Eastern Cape, with the associated pesticide applications on a commercial basis in those areas. All three factors suggest that the absence of records from the Northern and Eastern Cape reflects a lack of suitable opportunities and lower than usual rates of reporting.

Cause of poisoning

Maphasa (1996) showed that most gamebirds poisoned in KwaZulu-Natal were killed for food. It is not known to what extent farmers killed gamebirds because of perceived damage to poisoned crops. Wolff, Bothma & Viljoen (2002) have reported that Swainson's Francolin



and other species are often blamed for uprooting germinating crops when nocturnal rodents are the culprit. Because the gamebirds are seen foraging in the same areas during daylight, they are regarded as the culprit.

Seasonality of poisoning

Guineafowl are susceptible to poisoning when they form winter flocks, with 16 of 27 records between June and August. Waterfowl poisonings are also mainly recorded in winter with 11 of 15 records between May and September.



Numbers of birds poisoned

The reports sometimes give the numbers of birds poisoned are sometimes as a range, and often as a minimum estimate. Therefore results are calculated on the upper figures reported where a range is given. An average of 87 guineafowl were killed per incident in 27 guineafowl poisonings. However there was one record of more than 1500 guineafowl poisoned on 9 August 2002 at Rustenburg. If this result is removed from the calculation, the number drops to 28 per incident. Most poisonings took place between June and August when numbers of birds per poisoning is higher, because guineafowl form large flocks at this time of year.

An average of 14 dead waterfowl was reported per poisoning incident from 15 poisonings and was mainly recorded between May and September. Most of the birds killed were Egyptian Geese *Alopochen aegyptiacus* (69 birds) and Spur-winged Geese *Plectropterus gambensis* (22 birds). Many poisoned ducks were not identified. Of the four instances in which francolin



were recorded, the maximum number killed was 4. It is very clear that francolin are much less susceptible to mass poisoning because they occur in much smaller groups than guineafowl.

Not included in this analysis are 16 records of dove and pigeon poisonings,

of 14%, it is estimated that between 176 000 and 470 000 gamebirds are poisoned annually on farms alone.

Is it correct to exclude large mass poisonings? Whilst only one huge flock of guineafowl was decimated, poisons accounted for another 500 birds in the Springbok Flats on 5 February 2002, and 500+ birds (unidentified) at Potgietersrus (Mokopane) on 5 May 2003. Major kills thus probably occur regularly.

In addition to those estimated on farms, there are additional poisonings on communal lands, nature reserves, commercial properties and other privately-owned lands. It is reasonable to increase the mortality figure by at least another 25% to between 252 000 and 595 000.

Whilst it is clear that these estimates are very rough, they may still be a considerable underestimate. What cannot be disputed is that a minimum of several hundred thousand gamebirds are poisoned annually in South Africa.

Discussion

The data show that every community, farmer or landowner in South Africa should expect that poisoning of gamebirds or other wildlife can occur on their own

often killed in association with other species (6 records).

The total average kill of gamebirds per poisoning ranges from a conservative 21 birds per poisoning (excluding the single Rustenburg poisoning of 1500 guineafowl) to 58. Given a figure of 60 000 farms, at annual poisoning rate

*There was one record of more than **1500 guineafowl** poisoned on 9 August 2002 at Rustenburg*

property. Awareness that this can happen will lead to heightened attention given to prevention. We emphasise that poisoning is easily overlooked, particularly if the landowner visits the land occasionally or never visits certain areas favoured by target species.

Because such catastrophic deliberate poisonings are one-off events that kill most of the birds consuming poisoned bait, it should not be expected that sampling the tissues of birds for pesticides will necessarily show increased levels of poisons, in part because some poisons are rapidly metabolised and do not accumulate in the tissues.

It is possible, if not probable, that an entire flock can be killed by poisoned bait, or that survivors show very little trace of pesticides if sampled months later.

Thus the detection of deliberate poisoning depends on the vigilance of landowners or managers and on the co-operation of farm labour.

Careful attention should be given to ways of motivating farm labour to support the ongoing survival of gamebirds. The main target species is the Helmeted





Guineafowl, whilst waterfowl are next. Both are at risk mainly in winter months when most poisoning takes place.

The data also show that poisoning is massive in its extent, and it appears likely that at least 500 000 gamebirds are killed annually by poisoning.

Recommendations

1. Awareness is critical. If every landowner is aware that deliberate poisoning can occur on his or her land, and watches for such poisoning, it is more likely to be detected or prevented. Poisoning usually takes place by soaking grain in pesticides and placing this bait where it will be eaten by resident gamebirds.

2. Poisoning of guineafowl, the primary target, takes place mainly during the months of June to August. This is time for maximum alertness.

3. It is much simpler to check for poisoning of waterfowl as these baits are usually placed at specific locations on wetlands. Searches should be heightened in winter.

4. Ensure that poisons on the farm are tightly controlled and under lock and key. This is a legal responsibility of the farmer. Contact the PWG at 011 4861157/4861102 for further advice, including understanding the threats posed

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5. Ensure that farm staff are aware of the value of gamebirds to the landowner and seek ways of motivating or incentivising the farm labour to ensure that birds are not poisoned.

Please contact Aldo Berruti at AGRED 011-782.8756 or email agred@netdial.co.za to convey how you do this. 🐦

References

Maphasa, L. J. 1966. Cultural and socio-economic aspects of the decline in Helmeted Guineafowl *Numida meleagris* populations in KwaZulu-Natal, South Africa. M.Sc. thesis, University of Cape Town.

Wolff, S.W., Bothma J. Du. & Viljoen, P.J. 2002. Game Birds. pp. 226-241. In Bothma, J. du P. Game Ranch Management (ed). Fourth Edition. Van Schaik Publishers, Pretoria.

Aldo Berruti¹, Tim Snow² and Nicola van Zijl²

Addresses: 1 – African Gamebird Research Education and Development Trust; 2 – Poison Working Group, Endangered Wildlife Trust.