Status assessment of Namibia's vultures

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Vultures provide essential ecological services, yet are amongst the world's most threatened species with populations having declined by more than 95% within ten years in some places. The biggest factor causing this decline is the use of poison, either intentionally or unintentionally. Other factors causing declines are collision with and electrocution by powerlines, illegal harvesting for traditional medicines, habitat loss and drowning in reservoirs.

Namibia is home to six species of vulture, one of them, the Egyptian Vulture (*Neophron percnopterus*), is considered nationally extinct since there have been no confirmed sightings of this bird in the recent past. The Cape Vulture (*Gyps coprotheres*) is considered critically endangered in Namibia due to the extremely small population and probably does not breed in the country anymore. Two species are listed as endangered. One of them, the Hooded Vulture (*Necrosyrtes monachus*), is at the limit of its natural distribution in Namibia and its preference for mesic woodlands means that it is restricted to north-eastern Namibia. The second species is the most common vulture in Namibia, the White-backed Vulture (*Gyps africanus*). Being the most numerous vulture has been their downfall though as populations of this species have suffered massive declines due to deliberate poisoning by commercial poachers, especially in north-eastern Namibia. The remaining two species are categorised as vulnerable. Again, one of them, the White-headed Vulture (*Trigonoceps occipitalis)*, is at the limit of its natural distribution in the woodlands of north-eastern Namibia. On the other hand, the Lappet-faced Vulture (*Torgos tracheliotos*), is widely spread throughout Namibia, and the country is considered one of the strong-holds of this species.

There are three projects that can be used to quantify the status of Namibia's vultures: the bird atlas, ringing and road counts.

The Bird Atlas

The second southern African bird atlas project, SABAP2 in short, was launched in Namibia in May 2012. The aim of the atlas is to map bird distribution and abundance based on a 5x5 minute grid, called pentads. The challenge in Namibia is that we have the largest SABAP "province" with the least number of regular atlasers, yet we have done extremely well with almost 12% of the country covered since the start of the project.

Data from SABAP2 can be compared to data from the first atlasing project, SABAP1, to show changes in distribution and abundance. Comparing reporting rates i.e. how many times a species has been reported for a certain grid cell, allows us to see whether a species has increased or decreased and whether its range has expanded or contracted.

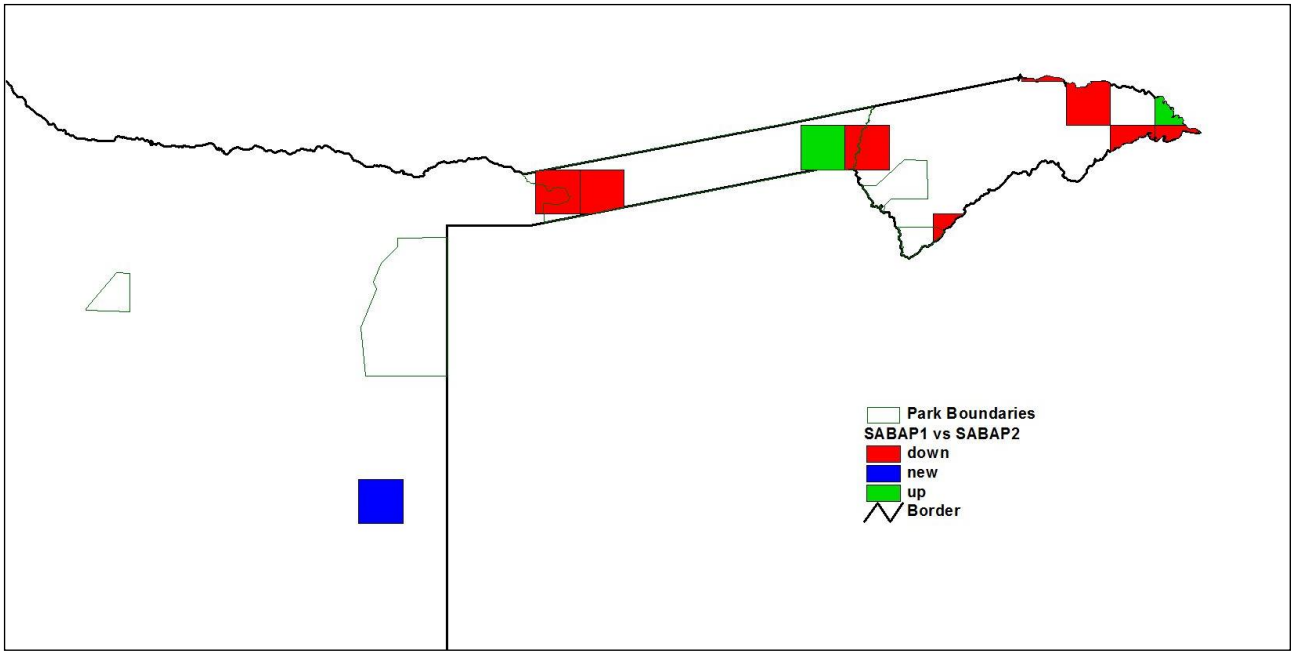

Figure 1: Reporting rates for Hooded Vulture in Namibia.

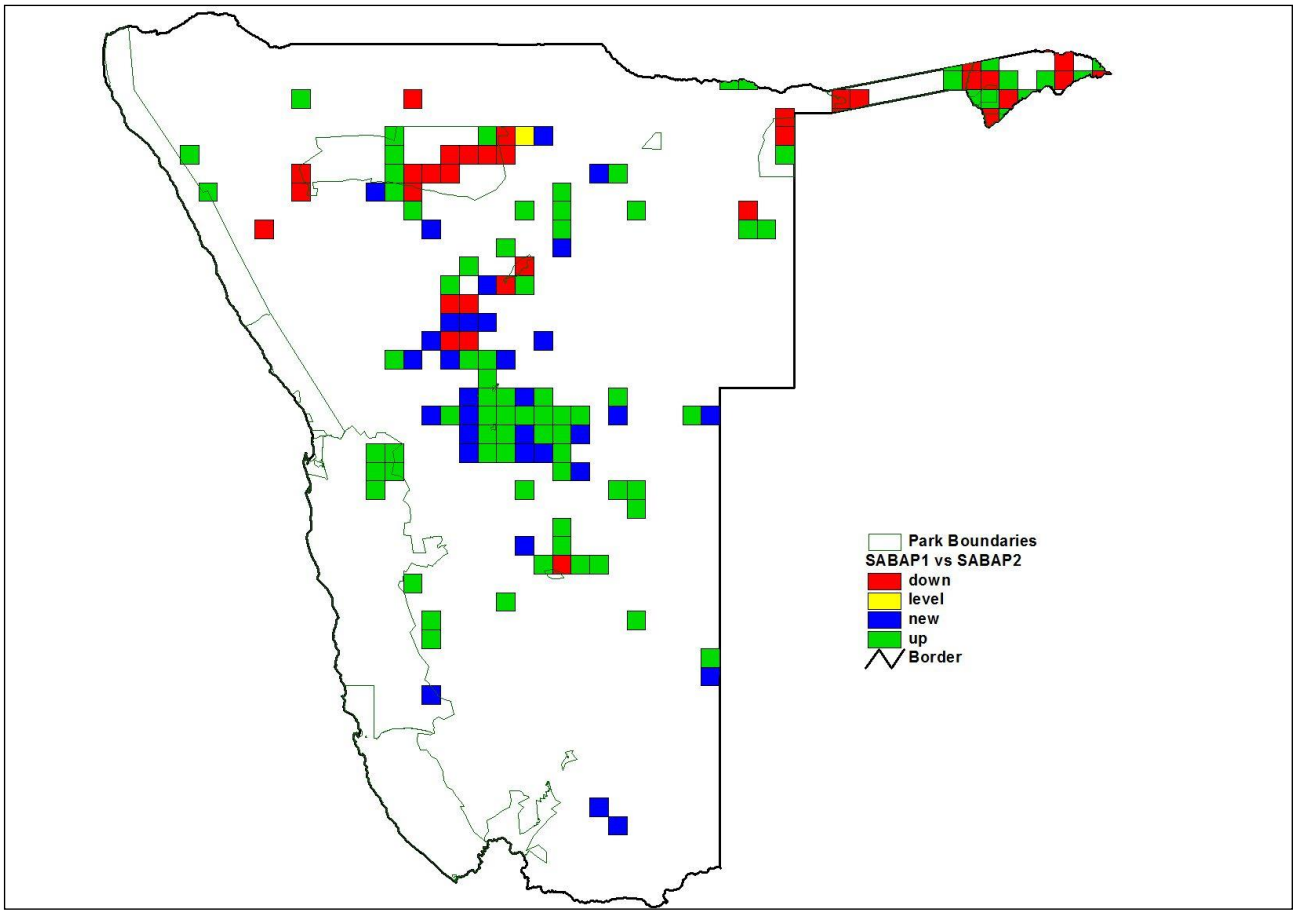

Figure 2: Reporting rates for White-backed Vulture in Namibia.

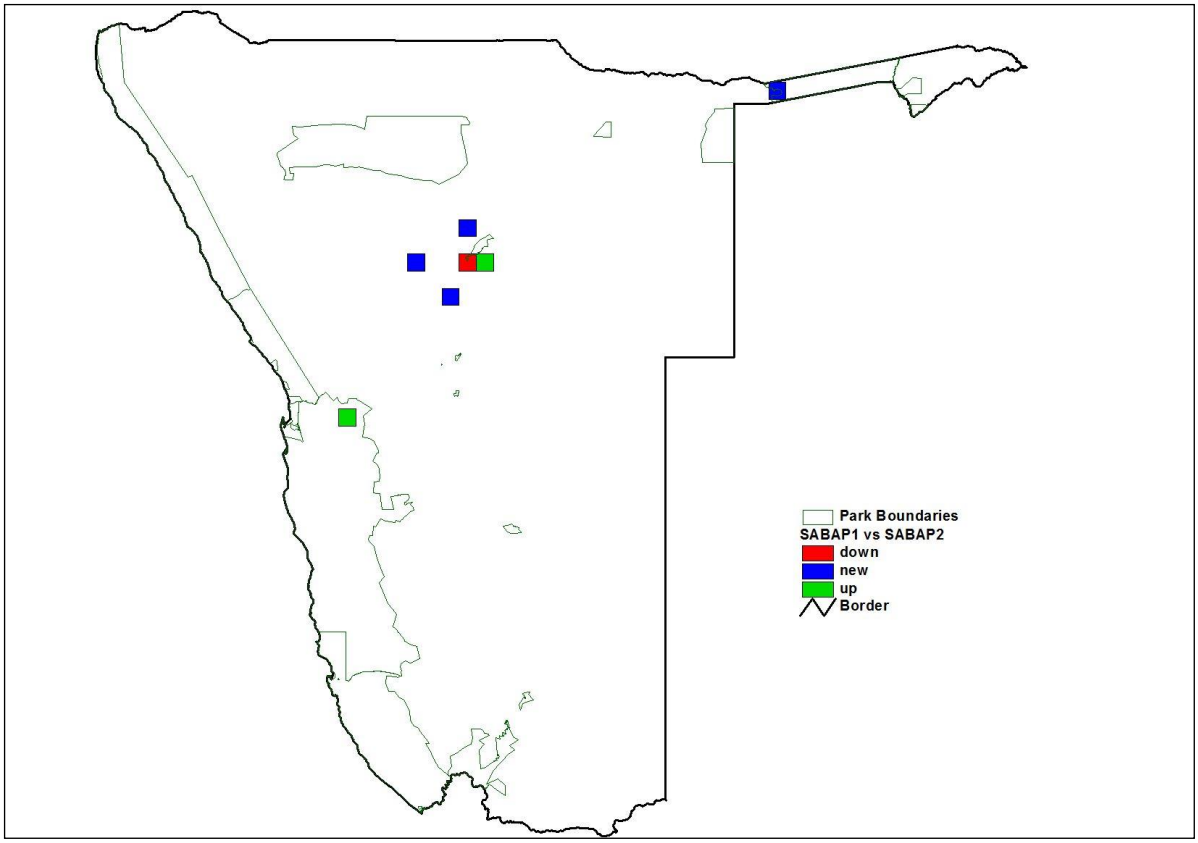

Figure 3: Reporting rates for Cape Vulture in Namibia.

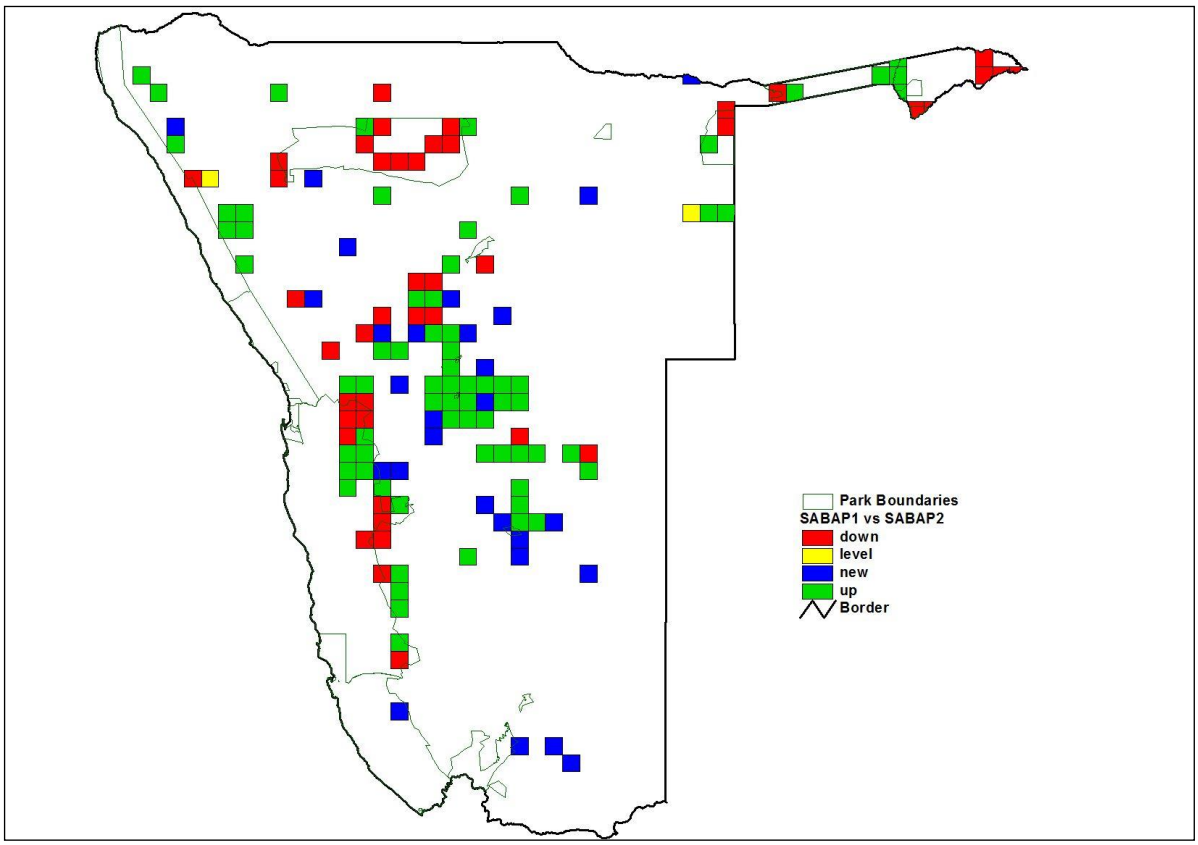

Figure 4: Reporting rates for Lappet-faced Vulture in Namibia.

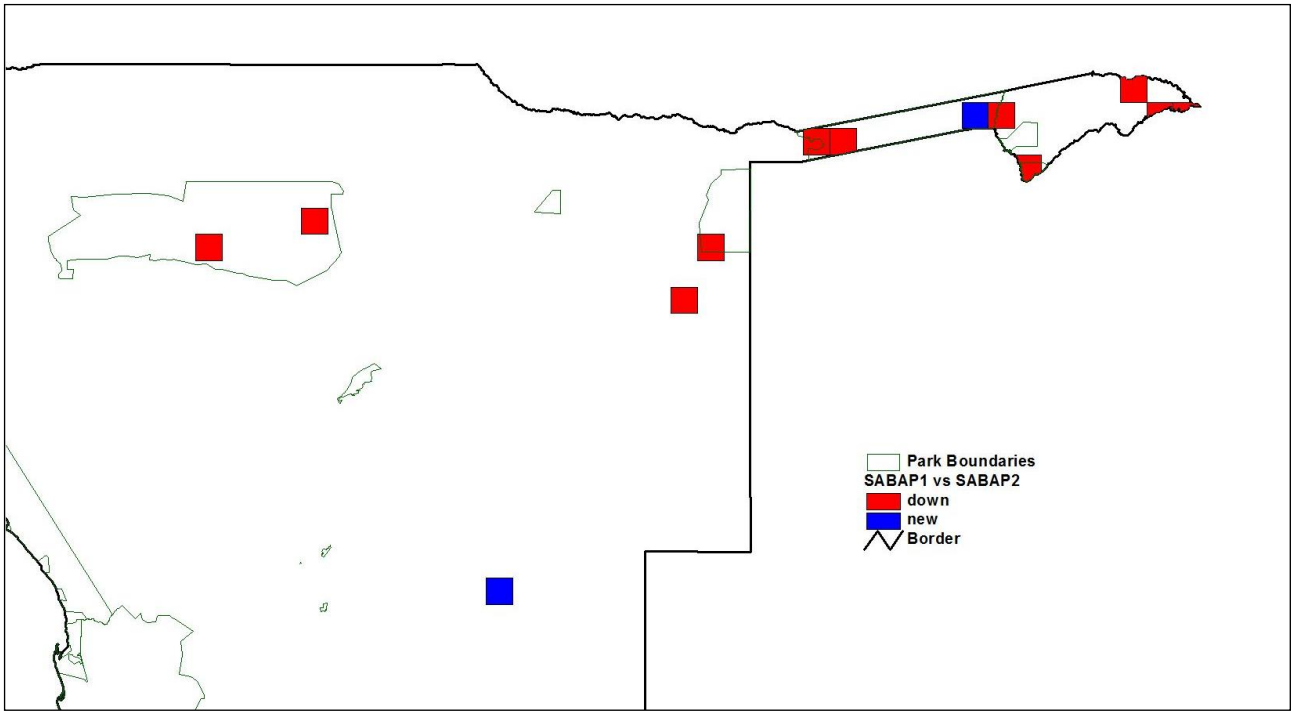

Figure 5: Reporting rates for White-headed Vulture in Namibia.

The atlas data highlights the declines of birds in the north-east where deliberate poisoning by elephant poachers has killed several hundred birds. More surprising is the decline shown in Etosha National Park for the three species that occur there. Declines also have happened in Waterberg Plateau Park and the area between Okahandja and Otjiwarongo. The reasons for these declines are not apparent and need to be investigated.

Hooded Vultures have decreased in seven out of ten grid cells where they have been recorded. There is one new record from the Tsumkwe area – this is not surprising, the birds were probably always there but just not recorded in SABAP1.

White-backed Vultures have declined in 35 out of 153 grid cells (=22%) where they have been recorded. The declines are mainly in the north of the country. Of note is the increase in records in the northern Namib-Naukluft Park. Two White-backed Vulture nests were found in the park during the annual monitoring of Lappet-faced Vulture breeding, the first confirmed records of White-backed Vultures breeding in the park since 1984. It is not clear though whether these are surplus birds colonising a new area or birds moving in from another area due to disturbance or some other reason.

Not surprisingly, reporting rates for Cape Vultures have declined at the Waterberg. There was an active breeding colony on the cliffs here and a vulture restaurant established to provide the birds with a safe source of food will have resulted in fairly high reporting rates for SABAP1. Sadly, the breeding colony went extinct and the vulture restaurant was discontinued and hence reporting rates for SABAP2 will have declined. Encouraging though is the increase in reporting rates in the Namib. These are mainly second and third year birds from South Africa and if they can be persuaded to stay in the area there is a good chance that the former Cape Vulture breeding colony at Rostock may become active again.

Lappet-faced Vultures have declined in 43 out of 147 grid cells (=29%), spread fairly evenly over the entire country. One worrying aspect is the decline in the Namib-Naukluft Park, a place that was always considered a breeding stronghold for this species.

White-headed Vultures have declined in all but two of the thirteen grid cells from where they have been reported.

Ringing

The history of vulture ringing in Namibia starts on 15 August 1960 when a one to two year old Cape Vulture was ringed on Roberts' Farm near Rustenburg, South Africa. This bird was found ill on farm Manams, Rehoboth District, on 1 February 1962 and died on 15 February 1962, one year, six months and one day after it was ringed and 1 056km from where it was ringed.

Our database currently contains 6 227 records of vultures ringed and controlled[1] in Namibia during the period 15 August 1960 to 7 November 2016. These comprise four species: Cape Vulture (54 records), White-backed Vulture (2 435 records), Lappet-faced Vulture (3 730 records) and White-headed Vulture (8 records).

The first bird to be ringed in Namibia is a White-backed Vulture that was ringed on 7 November 1965 near Grünau; unfortunately the ringer's name was not recorded. Colour rings appear in the records in October 1991 and engraved plastic (Canadian) rings and patagial tags in September and October 2006 respectively. There was a series of mass captures of mainly White-backed Vultures in 2004, hence the peak of over 500 birds ringed in that year. After that numbers appear to be declining steadily but not too much can be read into this because it is mainly a factor of ringing effort since personnel, time and financial constraints have prevented us from ringing on commercial farms in the past few years.

Of the birds ringed in Namibia, over 41% have been fitted with wing tags and just over 33% with colour rings. Most of the birds have been ringed in parks, mainly Etosha National Park and Namib-Naukluft Park, but a fair number has also been ringed on freehold farms.

Controls allow us to glean important information about survival and dispersion. There are 2 482 records of controls, comprising 815 individuals or just over 21% of the birds ringed. Some birds are real "repeat offenders" when it comes to controls. One White-backed Vulture (ring G28607) has been controlled 44 times since it was ringed on 16 September 2010 on farm Okozongutu, Otjiwarongo District. Apart from this one, seven birds have been controlled more than twenty times and 40 birds have been controlled more than ten times. The number of controls has increased dramatically with the deployment of camera traps at NARREC in 2013 and in the Namib-Naukluft Park in 2014 showing the usefulness of these devices in gathering data.

[1] We are using the word "controlled" here for re-sightings, re-captures and dead birds.

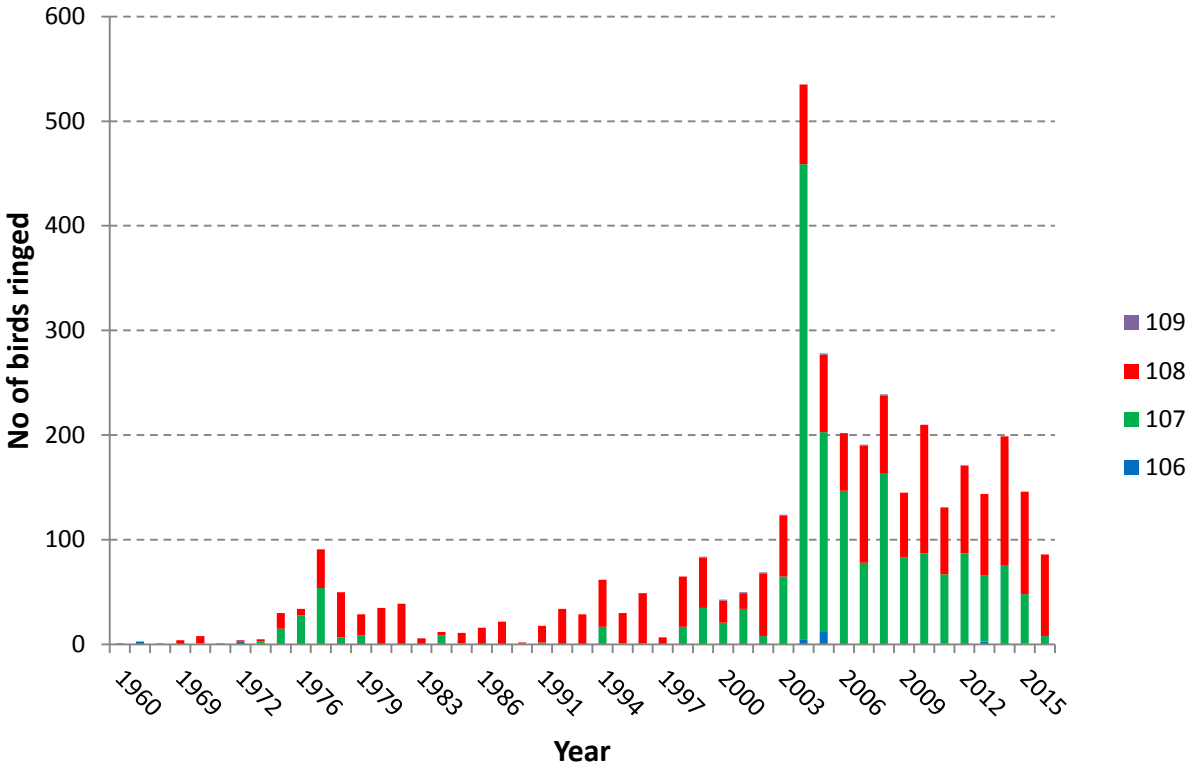

Figure 6: Number of birds ringed per year (106 = Cape Vulture, 107 = White-backed Vulture, 108 = Lappet-faced Vulture, 109 = White-headed Vulture)

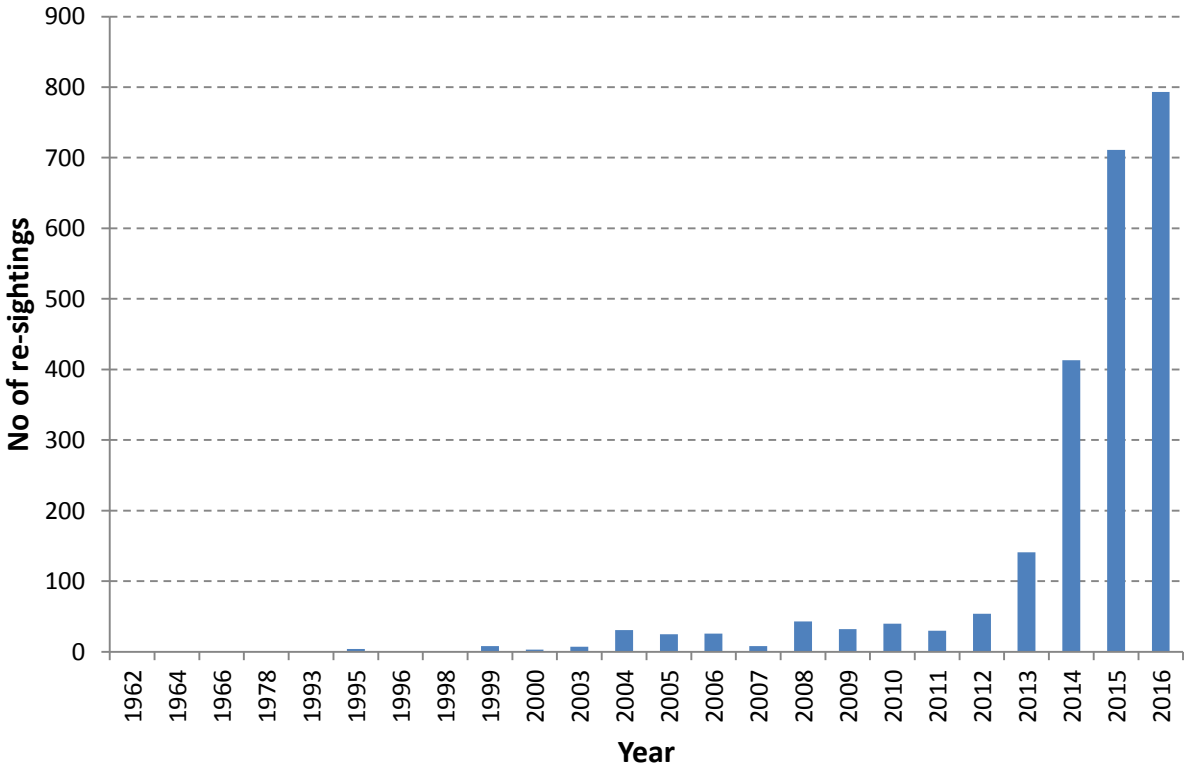

Figure 7: Number of re-sightings per year, camera traps were deployed in 2013.

The longest elapsed time between ringing and control is 19 years, 8 months and 13 days. This is a Lappet-faced Vulture (ring G17486) ringed as a nestling on 18 October 1991 at Tsondabvlei in the Namib-Naukluft Park. Only the ring was found on 27 June 2011 on farm Ruimte bordering the park. That puts this record in question because there is a possibility that this bird may have died quite some time before the ring was found. The next longest elapsed time is also a Lappet-faced Vulture (ring G20532) ringed as a nestling in the Mirabib River, Namib-Naukluft Park on 15 October 1999. The bird was found dead on 10 November 2014 on farm Onis, Maltahöhe District, 15 years and 30 days after ringing. There are eight records of birds being controlled more than ten years after ringing and a further 359 records of birds controlled more than five years after ringing. The average time elapsed between ringing and control is two years, seven months and thirteen days (± 2.205 years).

In terms of distance there are 25 records where birds have travelled more than 1 000km between the ringing and the control locality. A further 40 records show a distance of more than 500km travelled and 340 birds have been controlled more than 100km from their ringing locality. The longest distance covered is by a White-backed Vulture (ring G21892) which was ringed as a nestling on Benfontein Farm, near Kimberley, South Africa. It was found dead on farm Stillerus, Outjo District, 1 425.053 km from the ringing locality only eight months and 9 days after it was ringed.

A plot of distance travelled between ringing and re-sighting against time elapsed shows that most of the long-distance travel happens before the birds reach five years of age. We can say this because the majority of birds are ringed as nestlings and hence the time elapsed can also be used as the age of the bird. This is important information because it shows us that conserving the areas where the birds breed is not enough. Considering the fact that birds from Limpopo Province in South Africa have been seen in the Namib and *vice versa*, the implications of conservation on a regional level become apparent.

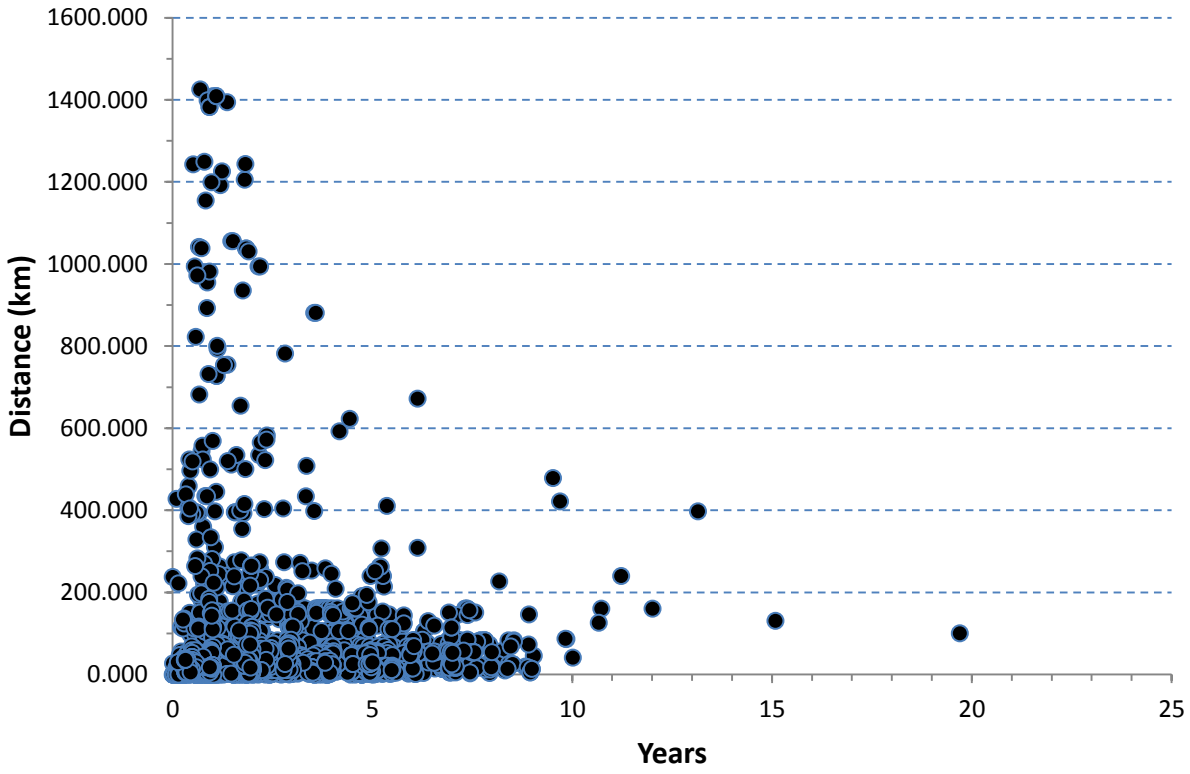

Figure 8: Plot of time elapsed against distance travelled between ringing and re-sighting.

Raptor Road Counts

Raptor road counts are one of the most efficient ways to assess abundance and distribution of birds of prey. The traditional way of raptor road counts has been superseded by a cell phone app which, apart from recording data more accurately because it uses GPS, also makes recording much easier and faster. All the data collected through this method is stored and curated in the African Raptor Databank housed at HabitatINFO in the United Kingdom. Unfortunately data collection through this app only started in 2015 so comparisons with older road count data will only be possible once sufficient new data has been collected.

Recommended Actions

Several actions can be undertaken to improve the current situation. The existing vulture restaurants at Waterberg and in the Namib-Naukluft Park must be re-activated. I recommend that the restaurant in the Namib-Naukluft Park be moved from Ganab to Hotsas since the latter locality appears to be favoured by the birds. Carcases should be put out at least once a week during the breeding season i.e. from July to December, outside of that once a month probably is sufficient. Camera traps must be deployed every time a carcass is put out. Establishment of vulture restaurants in other places such as communal conservancies and on farms must be encouraged and supported.

More camera traps must be deployed in areas of high vulture concentration especially in the Namib and Etosha National Park, regrettably the risk of theft will prevent deployment elsewhere. Adequate funds for the servicing i.e. replacement of batteries and downloading of photos must be allocated on the annual budget.

Regular raptor road counts along a fixed route must be done. This activity can easily be done as part of other activities currently undertaken, such as the wetland bird counts.

Similarly, atlasing has to be conducted regularly and once again this can be done during routine activities already on the work plan. However, dedicated atlasing trips to areas which are not covered or difficult to access for the public e.g. the Tsaukhaeb National Park must also be done to complement this.

The annual monitoring of breeding and ringing of chicks in the Namib and Etosha must continue; if possible, permanent study i.e. ringing sites on commercial farms must be identified and initiated. Surveys of all known former breeding cliffs need to be done during the breeding season to check for any possible breeding activity.

Current initiatives to outlaw certain poisons and to train people in the responsible and correct use of such poisons must be supported. Similarly, initiatives to reduce mortalities caused by powerlines must also be supported.

All of the above actions do not require substantial funding to be carried out, nor will they add too much additional time if they are conducted in conjunction with activities already on the work plan.

This report was compiled at the request of and for the Permanent Secretary of the Ministry of Environment and Tourism, hence the references to budget and work plans – Ed.