

## CONFERENCE ABSTRACTS

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<http://dx.doi.org/10.4314/vulnew.v76i1.5>

**Raptor Research Foundation (USA), Kruger National Park, South Africa, November 2018.  
Co-hosts Endangered Wildlife Trust and Birdlife South Africa**

Vultures are truly the flavour of the month. This mega-bash on raptors featured several workshops, on trapping, first aid, etc., three plenary talks (Virani, Bildstein and Bowerman), one whole day of Old World Vultures symposium, most-of-a-day on Social Sciences and Vultures symposium, and two one-hour group discussions on conservation of all vultures. And there were poster sessions. Quite a feast!

**Bildstein, K.L.** – “Critical new insights into the movement ecology of Old and New World Vultures”. Satellite tracking of Hooded, American Black and Turkey Vultures. [Plenary]

**Kruger, R., Page-Nicholson, S. & van Zyl, B.** - “An analysis of vulture mortalities on power lines in South Africa from 1996-2018”. Species most affected, type of structures responsible, key factors, and Eskom’s policy.

**Leeuwner, L. & Page-Nicholson, S.** - “Raptor electrocutions and collisions on overhead powerlines, and mitigating this threat: a summary of two decades”. Of over 7400 mortalities in 22 years, raptors accounted for 36%, and vultures at 70% of them.

**Bracebridge, C., Kendall, C. & Mgumba, M.** - “Evidence that two distinct, stable, and significant populations of African vultures persist in southern Tanzania”. Work in the Ruaha-Katavi National Parks and Selous Game Reserve, including satellite tracking.

**Buechley, E., Opper, S., Beatty, W. et al.** - “Identifying critical bottlenecks and high-use areas for an endangered migratory soaring bird across three continents”. 45 Egyptian Vultures were tracked. None of the area within the bottlenecks was protected.

**Buij, R. & Davies, R.A.G.** – “Mapping African vulture strongholds and their threat levels to inform conservation action”. The database includes tracking of 228 tagged vultures. Most significant threats are poisoning, trade, and energy infrastructure.

**Chores, Y., Appenzeller, B., Trop, T., Izhaki, I. & Malkinson, D.** - “Possible effects of environmental contaminants on breeding success of the Eurasian Griffon Vulture (*Gyps fulvus*) in North Israel”. Only ten birds at Gamla Nature Reserve in 2018, with evidence in feathers of many contaminants, e.g. Fipronil.

**Coverdale, B., Kelly, C. & Gillings, D.** - “Tracking vultures - endangered species guiding conservation action in Zululand, South Africa”. Adult White-backed Vultures were tracked in and around the Hluhluwe-Imfolozi Park by GSM. They now guide conservation action.

- Duriez, O., Harel, R., Fluhr, J., Behamon, S. & Nathan, R.** - “Flight and foraging decision making in Griffon Vultures”. Birds were tracked in Israel and France. Breeding status, seasonality of food, and atmospheric conditions, all had an influence”.
- Jobson, B. & Jordan, L.** - “Spatial-utilization patterns by captive-bred and rehabilitated Cape Vultures (*Gyps coprotheres*) in southern Africa”. GPS tracking of 21 captive-bred and 15 rehabilitated birds - MCP for the former was 89 000km<sup>2</sup> and for the latter 634km<sup>2</sup>!
- Kaltenecker, G., Miller, R., Carlisle, J., Scott, T. & Stalmans, M.** - “Apparent numerical response of obligate and facultative avian scavengers to annual rainfall in Gorongosa National Park, Mozambique”. As part of restoration activities, vultures and other large birds were assessed. Only early results are available so far.
- Kanaujia, A. & Yadav, R.** - “Upcoming Ken Betwa Link Project (KNLP): a threat to breeding sites of vultures in Panna Tiger Reserve, Bundelkhand Region, India”. This inter-river canal will flood 10% of the reserve and 60% of vulture nesting habitat.
- Murn, C. & Botha, A.** - “A clear and present danger: impacts of poisoning on a vulture population and the effect of poison response activities”. VORTEX was used to model various scenarios on the White-backed Vultures of the Kruger N.P. The response activities were deemed to be essential.
- Murn, C.** - “VISA - the metadata project concept to improve connectivity for vulture research and conservation”. The Vulture Initiative for sub-Saharan Africa, under the IUCN’S Vulture Specialist Group, aims to increase liaisons and reduce gaps in knowledge.
- Odino, M. & Ogada, D.** - “Wildlife poisoning response protocol training in northern Kenya”. Local teams have been trained in Samburu and Laikipia counties to respond rapidly to any wildlife poisoning event.
- Parry-Jones, J., Prakash, V. & Bowden, C.** - “Status and conservation of South Asian *Gyps* Vultures”. Twenty years on from the original alert, and where are we at now?
- Pfeiffer, M.B., Venter, J.A. & Downs, C.T.** - “Cliff characteristics, neighbor requirements and breeding success of the colonial Cape Vulture”. At the Msikaba colony, 1767 breeding attempts were documented. The number of nesting neighbours positively influenced success.
- Coverdale, B., Craigie, J. & Howells, W.** - What’s in the numbers? 10 years of tree-nesting vulture surveys in Zululand, KwaZulu-Natal”. (Poster). By fixed wing aerial survey, nests of the White-backed Vulture have increased, but a decrease for the White-headed Vulture.
- Ogada, D., Roxburgh, L. & Botha, A.** - “Africa’s first continental wildlife poisoning database two years on”. Endangered Wildlife Trust and Peregrine Fund have set up the database. So far the White-backed Vulture has registered 4763 mortalities!
- Scott, T., Kaltenecker, G.S., Botha, A., Carlisle, J.D., Miller, R.A., Carter, N.H. & Stalmans, M.** - “Movements of White-headed Vultures and White-backed Vultures from Gorongosa National Park, Mozambique”. Twelve and eight birds respectively have been fitted with GPS transmitters. It is also planned to expand the 4000km<sup>2</sup> protected area.
- Tavares, J.** - “The reintroduction of Bearded Vultures in Europe - background, context, results, and recommendations from one of the greatest wildlife comebacks of our times”. Started by the Vulture

Conservation Foundation in 1986, there are now 50 pairs in the Alps, that in 2017 fledged 31 young. Reintroductions are also being done in Andalucía, Cévennes, and Maestrazgo (Spain).

**Thompson, L., Barker, D., Botha, A., Wolter, K., Neser, W., Buechley, E., Reading, R.P., Garbett, B., Hancock, P., Maude, G., Virani, M., Thomsett, S., Lee, H., Ogada, D., Barlow, C. & Bildstein, K.** - “Variation in monthly home-range size of Hooded Vultures in West, East and southern Africa”. Thirty birds were tracked, caught in six countries. Juveniles had the largest home ranges.

**Gore, M., Rademeyer, J., Murrow, J. & Ottinger, M.A.** - “Raptor poaching and trafficking: global trends and crime prevention opportunities”. Principles of situational crime prevention were applied to vulture poaching and trafficking, to propose short-term fixes.

**Harrell, R.M., Shaffer, J. & Funda, X.N.** - “Vulture belief use and conservation ethics”. The collapse of Africa’s vulture populations could reveal devastating impacts on ... cultural ... systems.

**Murrow, J.L., Harrell, R.M. & Bowerman, W.W.** - “The Sub-Saharan African Vulture Initiative: using open standards for the practice of conservation”. Saving Africa’s Vultures was initiated in 2017 from Maryland, USA. Open Standards Model can improve conservation efforts.

**Ottinger, M.A., Mani, S.K., Shah, S., Gore, M.L., Shaffer, J., Thompson, L. & van den Heever, L.** - “The interdependence of One Health and vulture populations”. Vultures are critical to a healthy socio-ecological system. It is a challenge to integrate societal needs with a healthy vulture population.

**Manqele, N., Downs, C. & Selier, J.** - “Traditional uses of vulture, reducing anthropogenic impacts, improving attitudes, promoting sustainable use and reducing declines”. (Poster). In sub-Saharan Africa, vultures are predominantly threatened by poisons. Also it is necessary to conserve traditional belief systems while conserving vultures.

**Yee, N., Harrell, R., Bowerman, W., Shaffer, J. & Gore, M.** - “Understanding conservationists’ perspectives concerning the ethical dilemmas associated with declines in African vulture populations”. (Poster). Two kinds of interviewing were done. Overall, conservationists were driven to pursue work in the conservation field.

**Reson, E., Virani, M., Craig, C., Downs, C. & Santangeli, A.** - Determining the drivers and extent of poisoning among pastoralist communities in southern Kenya”. About 1500 questionnaires were collected, wherein <1% of respondents use poison to kill predators! Narok and Kajiado counties were used.

**Ruffo, A.D., Bekele, A., Afework, B. & Buechley, R.** - “Human perceptions of and threats to vultures in Ethiopia”. From 153 questionnaires at abattoirs, 98% respondents were positive in attitudes to vultures. Nevertheless, poisoning and power lines remain as big threats.

**Santangeli, A.** - “Using social science techniques to understand and quantify wildlife crime”. In Namibia, 20% of commercial farmers and 1.7% of communal farmers used poisons to kill carnivores.

**Shaffer, L.J.** - “Vulture conservation social network capacities and challenges”. !!!

**van den Heever, L., Colyn, R. & Smit-Robinson, H.** - “Introducing Vulture Safe Zones to southern Africa”. A strategic approach involving three steps was rolled out on Tswalu Kalahari private game reserve.

- van den Heever, L., Naidoo, V., Smit-Robinson, H. & McKechnie, A.** - “Quantifying the levels of lead toxicosis in South Africa’s vulture species”. Blood and bone lead samples showed that White-backed Vultures and Cape Griffons have elevated lead levels. This was also the case in chicks at a White-backed Vulture colony near Kimberley.
- van den Heever, L., Gore, M., Harrell, R.M, Thompson, L. & Ottinger, M.A.** - “The link between vultures and the spread of disease: a review”. A literature review was done. Further research is needed to examine the role vultures play in the spread or otherwise of diseases.
- Duriez, O., Williams, H., Potier, S. & Shepard, E.** - “The use of falconry birds to study flight behaviors and energetics”. Eurasian and Himalayan Griffons were allowed to fly free from the Rocher des Aigles falconry park (France). Soaring, gliding, wing flaps, and heart rate (80 beats per minute when at rest or gliding) were monitored.
- Garbett, R., Maude, G., Hancock, P., Kenny, D.D., Reading, R.P. & Amar, A.** - “Association between hunting and elevated blood lead levels in the critically endangered African White-backed Vulture (*Gyps africanus*)”. No less than 566 birds were tested. One-third had high levels ( $>10 \mu\text{g/dl}$ ), inside the hunting areas and hunting season.
- Gross, D., Brandt, J., Sur, M., Katzner, T. & Hall, J.** - “Accelerating the pace of conservation research: using advanced telemetry technology in California Condor research and management”. Sixty birds provided accelerometry and GPS data, to indicate ground-based behaviours. Feeding and roosting occur more frequently on unmanaged land.
- Martens, F., Pfeiffer, M., Downs, C. & Venter, J.** - “The spatial ecology and roost site selection of fledging Cape Vultures (*Gyps coprotheres*) in the Eastern Cape, South Africa”. Five birds were tracked for eleven months, by GPS/GSM. Roost sites were mostly located within 20km of a breeding colony.
- McClure, C.J.W., Westrip, J.R.S., Johnson, J.A., Schulwitz, S.E., Virani, M.Z., Davies, R., Symes, A., Wheatley, H., Thorstrom, R., Amar, A., Buij, R., Jones, V.R., Williams, N.P., Buechley, E.R., & Butchart, S.H.M.** - “State of the world’s raptors: distributions, threats and conservation recommendations”. Raptors, especially Old World Vultures, are more threatened than birds in general.
- Brink, C.W., Amar, A., Santangeli, A., Wolter, K., Krueger, S., Tate, G. & Thomson, R.L.** - “The state of vulture supplementary feeding stations in southern Africa”. Some controversy surrounds vulture restaurants, and it is necessary to demonstrate their conservation value.
- Camiña, A., Wolter, K. & Hirschauer, M.** – “Repeatability of foraging areas in an immature Cape Vulture (*Gyps coprotheres*): identifying priority conservation areas”. A juvenile was followed for four years. It covered nearly two million  $\text{km}^2$ .
- Katzner, T.E., Braham, M.E., Hall, J.E., Brandt, J., Burnett, J., Duerr, A.E., Miller, T.E., Poessel, S.E., Sur, M.E. & Brandes, D.E.** - “Aeroecology predicts the movements of a terrestrial raptor, the California Condor”. Wing-loading of 39 condors averaged  $7\text{kg/m}^2$  suggesting a minimum sink speed of  $0.9\text{m/s}$ . Thermals and orographic updrafts that exceeded this sink speed were modelled.
- Phipps, L., Loercher, F., Tavares, J.P., Pereira, J., Realinho, E., Peske, L., Costa, J., Alanís, I.C. & Monteiro, A.** - “Space use and movement patterns of Egyptian Vultures tracked from the Douro

Valley, Spain-Portugal”. Nine birds were tracked by GPS from Europe to Africa. Winter ranges of five adults averaged 20 000km<sup>2</sup> mostly in cross-border areas of Mali, Mauritania and Senegal.

- García, M.E.C., Sarasola, J.H., Olea, P. P., Zanón, J.I. & Mateo-Tomás, P.** - “Raptors in the scavenging community of the semiarid region of La Pampa, Argentina”. Based on camera traps at 31 carcasses, birds included Turkey and Black Vultures which appeared more on wild ungulate carcasses.
- Leepile, L.B.L., Maude, G., Hanckock, P., Reading, R., Bridges, B., Hartley, R. & Amar, A.** - “Changes in nesting numbers and breeding success of African White-backed Vultures (*Gyps africanus*) in the Okavango Delta, Botswana”. Between 2006 and 2017, numbers declined by more than 50%, and breeding success was lower, in Khwai and Linyanti.
- Méndez, D.** - “Neotropical vultures: current knowledge, conservation status and research perspectives”. In general, the biology of these vultures has been little studied (except for the California Condor).
- Ogada, D., Shaw, P., Virani, M.Z., Odino, M., Kapila, S., Kendall, C. & Thiollay, J.M.** - “Large population declines in Kenya’s raptors over the past 45 years”. Vulture species have declined inside and outside protected areas by 51% and 99% respectively.
- Sibanda, B., Jordan, L., Hirschauer, M. & Wolter, K.** - “Sexual dimorphisms in African White-backed Vulture’s (*Gyps africanus*) plumage’. Feathers were removed from upper wing coverts of 35 birds, and analysed by pixilation. Streaking was broader in females and narrower in males.
- Efrat, R., Hatzofe, O., Miller, Y. & Berger-Tal, O.** - “Age during release and release season alter the post-release movement behaviors of reintroduced Egyptian Vultures”. (Poster). 57 birds have been released since 2003, and 25 were followed with GPS. Both age and time of release influenced their movements.
- Goodwin, W.** - “A concept: alternative power line aversion structure for captive bred vultures and other large raptors”. (Poster). With the Cape Griffon in mind, a novel method was used for making vibrations on the upper part of the pole, to simulate an electric jolt.
- Kibuule, M., Pomeroy, D. & Virani, M.Z.** - “Movements of the urban Hooded Vulture (*Necrosyrtes monachus*) in southern Uganda”. (Poster). Two birds were tracked by GPS-GSM for 12 months. One moved 130km away. No breeding sites were found but new feeding sites were.
- Meyburg, B., Sarrouf-Willson, M., Meyburg, C. & McGrady, M.** - “Oman’s resident Egyptian vulture (*Neophron percnopterus*) population appears much larger than estimated”. (Poster). Eleven adults were tracked, and none were migratory. With 100 pairs estimated, but up to 1000 birds seen at landfills and rubbish dumps, then the estimate is greatly exceeded.
- Mishra, S., Kumar, A., Sinha, A., Sharma, D.S. & Kanaujia, A.** - “Annual and seasonal variations in populations of endangered Egyptian Vultures (*Neophron percnopterus*) in administrative divisions of Uttar Pradesh, India”. (Poster). Eleven of 18 divisions were surveyed over five years. Average annual numbers were 103 ( $\pm 242$ ), with up to 641 in Lucknow. There were significant seasonal differences.
- Murn, C. & Holloway, G.** - “Using areas of known occupancy to identify sources of variation in detection probability of raptors”. (Poster). Using the White-headed Vulture, various covariates and models were tested. Observer speed, time of year, and length of time in a territory were major influences.

- Portugal, S., Murn, C. & Martin, G.** - “White-headed Vultures show visual field characteristics of hunting raptors”. (Poster). The maximum binocular field width is 30°, similar to predatory raptors, and significantly wider than in *Gyps* vultures
- Shema, S.** - “Assessing the current status of breeding raptors in a rapidly developing area of southern Kenya- with a special focus on threatened species”. (Poster). In a 2450km<sup>2</sup> area of the Athi-Kaputiei system, south of Nairobi, 89 nests of White-backed Vultures were found, among other raptors.
- Sinha, A., Sharma, D.S., Mishra, S., Kumar, A. & Kanaujia, A.** - “Distribution of the Red-headed Vulture (*Sarcogyps calvus*) in India”. (Poster). It is the rarest vulture in India. From 183 sightings in the eBird database, the species was seen in 12 states in 2017.
- Yadav, R., Kumar, A. & Kanaujia, A.** - “Geo-spatial analysis of size of breeding territory of vultures in the Indo-Gangetic plain to the Vindhya range of Bundelkhand region, India”. (Poster). Breeding territories contained 660 adults and 286 immatures, non-breeding territories had 635 birds. Habitat conversion, power lines, and mining are the three major threats to vultures.
- López-Berenguer, G., Pérez-García, J.M., Di Marzio, A., García-Fernández, A.J. & Martínez-López, E.** - “Influence of mining activity in heavy metals levels in feathers of an avian scavenger from Atacama Desert (Chile)”. (Poster). Primary feathers of Turkey Vultures (n=44) were tested, from northern Chile. Cadmium, lead and copper levels were very high.
- McGrady, M., Meyburg, B., Kwarteng, A. & Touqi, S.** - “Assessing risk and prioritizing remedial work to reduce electrocution of Egyptian Vultures (*Neophron percnopterus*) in Oman”. (Poster). Four immature birds were tracked by GPS. The areas covered by the birds included 3732km of power lines.
- Mundava, J., Chiweshe, N., Mabhikwa, N., Matsvimbo, F., Mundy, P., Nkomo, M.N. & Huruba, R.** - “Debshan Ranch, Shangani - a new nesting haven for White-backed Vultures”. (Poster). About 25 pairs nest on the ranch, none nested there before 2014 when a vulture restaurant was re-established.
- Pérez-García, J.M., García-Jiménez, R. Margalida, A.** - “Fine scale assessment of habitat use by territorial Bearded Vultures (*Gypaetus barbatus*) in Pyrenees, Spain”. (Poster). Ten territorial birds were tracked from 130 pairs in the Pyrenees, 2006-2017. Mixed habitats of forests and pastures were used.

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