

**FINAL REPORT**

**VULTURES OF YANKARI GAME RESERVE, BAUCHI, NORTHERN  
NIGERIA**

**By**

**Tende Talatu**

**Savanna Conservation Nigeria**

## **Introduction**

Vultures are large powerful birds of prey with massive wingspan and short round tails. They feed on carcasses which they locate in the air with the aid of their good eye sight. They tear apart flesh with their large, powerful beaks with hooked tips.

Vultures are very sensitive to environmental changes because they are long-lived, need large territories, have selective diet, are at the top of the food chain and have a low breeding rate. Therefore, they are excellent indicators of the state of health of ecosystems (Birdlife 2005).

The activities of vultures among us can not be overlooked in the field of conservation and environmental management. Vultures act as garbage disposers as they feed on carrions and refuse in our surrounding environment; thereby helping to avert pollution that could have occurred if carcasses are allowed to rot away in our environment.

During the last 30 years the population of vultures has been observed to drop drastically and in many areas around the world the vultures are now totally absent and confined only to protected areas such as National parks and Game Reserves (Oaks et al 2004, Rondeau and Thiollay 2004).

A raptor survey work over several years by Rondeau and Thiollay (2004) in the Sudano- Sahelian Savannas of Burkina Faso, Mali and Niger showed a drastic decrease in the population of vulture species in the last 30 years both in protected and unprotected areas. This situation is very catastrophic and therefore demands immediate conservational efforts to conserve areas that still harbour these species so that we can save the few that are still remaining.

Yankari Game Reserve (the Reserve) is located 100 km south east of Bauchi town in Bauchi state. The Reserve lies in the Sudan Savanna zone (Geerling 1973) of Nigeria with a vegetation made up of swampy flood plain bordered by patches of forest, gallery forest and riparian forest, woodland Savanna (Crick and Marshall 1981) and human occupation zone (farmland and villages) Green (1989). The Reserve lies between 9°0'N and 10°30'E, covering an area of 2,244 kilometres square and records an average rainfall of about 1000 mm a year which occurs between April and October (Crick and Marshall 1981). The Reserve still holds several species of vultures within it and it was deemed very vital to establish which species of vultures that still exist within the Reserve as well as their population. This situation demands for a yearly survey of the vultures within the Reserve in order to monitor the population and establish the status of the various species. This work will

establish the Reserve as an important area that harbours these species of conservation importance.

## **Methodology**

This survey was carried out within Yankari Game Reserve within a period of ten months.

**Observational count:** This method is simple but reliable for surveying birds of prey such as the vultures. With the aid of a pair of binoculars (8 X 40) and a telescope, four hours was used each day to observe and record the birds of prey (vultures) within the Reserve. This observation was done between the hours of 10:00am and 1:00pm when raptors make use of thermals to soar. This was carried out sitting at a point with a good view of the surrounding landscape. The landscape was scanned and all individuals seen perched or flying were counted. The area selected within the Reserve, for the observation has large trees such as *Acacia*, *Adansonia*, *Khaya* and *Butyrospermum* that are critical for the maintenance of the vultures (Thiollay 2006). All other observations of vultures during other activities in the Reserve were noted; together these observations gave as clear picture as possible of the current status of the different vulture species and their populations in the Reserve.

**Local empowerment:-** Participatory approach involvement is a good tool that will promote conservation in any protected area. The recruitment and training of the rangers who are members of the local communities that surround the reserve as well as the local youths for the exercise was to enhance their capacity in the identification of the various vulture species in the field as they take tourists around the reserve as well as in monitoring the vulture populations and environmental changes in the area in the future.

The data obtained will also assist the management of the Reserve in the conservation of a healthy vulture population as this is one of the few remaining areas in Nigeria where the vultures still exist.

Revenue generated from tourist activities have always been used in planning socio-economic development of the support zone communities around the game reserve.

## **Results**

During the ten month survey period which lasted between *January and October 2007*; three species of vultures were regularly encountered within the Reserve while two species were encountered only

once. The species were African White-backed Vulture (*Gyps africanus*), White-headed Vulture (*Trigonoceps occipitalis*) and Rüppell's Griffon Vulture (*G. rueppellii*). The two species encountered once are the Eurasian Griffon Vulture (*G. fulvus*) and the Hooded Vulture (*Necrosyrtes monachus*)

The observational time count, which was conducted for a total of 204 hours during 51 days, did not result in many observations of vultures instead I had to rely on observations made during other activities.

Up to six individuals of *G. africanus* have been recorded perched on the ground on the open floodplain in the Northern part of the Reserve. These six individuals comprising of two juveniles and four adults have also been recorded together in flight over the Mawulgo Warm Spring. The maximum number seen and recorded in flight over Wikki camp was nine individuals, comprising of six adults and three juveniles.

During the survey time three juveniles of *G. rueppellii* have been recorded in flight different times at different locations. Although a maximum of three individuals, all juveniles, of *G. rueppellii* have been sighted together they are probably at least seven individuals since 4 adults have been observed together on another occasion.

Individuals of *T. occipitalis* have been recorded at several times at different locations. Groups of two and three birds have been observed two times respectively; one of these locations was a carcass point, in the central part of the reserve where a pride of lions had made a kill of a Roan antelope (*Hippotragus equinus*).

Table 1. A summary of observed vultures in Yankari Game Reserve

Species	No of times group size was observed								Max No observed
	1	2	3	4	5	6	7	8	
<i>Gyps africanus</i>	11	1	4	1	1	3	1	1	8
<i>G. rueppellii</i>	3	1	2		1		1		7
<i>G. fulvus</i>	1		1						3
<i>Trigonoceps occipitalis</i>	9	4	2						3
<i>Necrosyrtes monachus</i>	1								1
Total									22

The maximal number of observed vultures of each species is summarised in Table 1, since there were several observations of single individuals, or smaller groups, of vulture these figures give us the minimum number of vultures in Yankari, where a maximum number of 18 individuals made up of *G. africanus* (8), *G. fulvus* (3) and *G. rueppellii* (7) were observed together in flight over Wikki camp on 6<sup>th</sup> Oct 2007.

## Discussion and Conclusion

Though 5 species of Vultures were recorded during this survey, it is only three out of the five that are encountered regularly, namely; *G. africanus*, *G. rueppellii* and *T. occipitalis*.

The highest number of vultures was observed at the end of the rainy season, i.e. October; during the rains just a few birds were observed, this might be due to the fact that animals within the Reserve became more spread out during this time of the year.

There was never a day out without a sighting of at least two species of the commonly encountered Vultures at different parts of the Reserve and it was an almost overwhelming sight to see the sky covered with 18 different individuals of Vultures on the 6<sup>th</sup> of October 2007. Of utmost interest among them were 3 *G. fulvus*; a palearctic migrant, which is the second sighting for the Reserve, an additional sighting was the one made of a single adult individual the 7<sup>th</sup> Oct 2007. The first sighting was in March 2005 (Strandberg et al. 2007). The Lappet-faced Vulture (*Torgos tracheliotus*) has also been recorded by Crick and Marshall in 1981 and sighted by Strandberg in March 2005 in this Reserve, but this species was not encountered at all during this survey.

Although the Hooded Vulture was recorded as common within Wikki camp by Green (1989), it was recorded only once during this survey, where the individual recorded was a juvenile perched on a tree. This camp is located in the centre of the Reserve with many modern buildings. Before this period the Wikki camp had a human population of over 700 individuals residing there in. After the take over by the State from the Federal government these people were relocated outside Wikki camp, and since the Hooded vulture is known to be commensal with humans (Sinclair and Ryan 2003); scavenging on refuse and offals (Borrow and Demey 2004), this can be one of the reasons they are not common within the camp or the Reserve any more.

In India a drastic decline of >95% of vultures have been reported by Oaks et al 2004 to be due to the residue of the anti-inflammatory drug diclofenac which causes renal failure for the vultures when they feed on the carcasses of the animals treated with the drug. However, this drug does not seem to be used to treat cattle in Nigeria (own investigation among veterinaries in Bauchi state, Nigeria) and therefore it seems likely that the decline in this part of West Africa have different reasons.

It was also gathered that the vultures were hunted in large quantities in the early 80s for commercial purposes using a highly poisonous chemical Gamaline 20

In 1999, a group of people were arrested within Nigeria with a bag full of some vultures collected to be roasted for food (own observation). Thus a hunt for Vultures in Nigeria for meat could be one of the reasons for its decline here.

Even though this survey did not make any comparison with unprotected areas as did Thiollay 2006, it agrees with the fact that most of the vulture species recorded were seen within Yankari Game Reserve and none seen outside that area after survey and during birding outside. The result in this study also follow suite with the decline showed by Thiollay (2006), e.g. reported Green (1989) up to 660 vulture individuals at elephant (*Loxodonta africana*) and hippopotamus (*Hippopotamus amphibius*) carcasses within the Reserve, to compare with a probable maximum figure of about 25-30 individuals today.

Though the Vulture population within Yankari Game Reserve can be termed small, it is still a promising population since different individual species have sightings of juveniles. With proper conservational efforts in areas that still harbour remnant populations of vultures a future for these “cleaners” of the nature may be possible.

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