

SPECIES LIST AND STATUS OF MAMMALS AND BIRDS IN SAMBISA GAME RESERVE, BORNO STATE, NIGERIA.

Mbaya, Y. P.¹ and Malgwi, H.²

1. Department of Forestry and Wild life, (Faculty of Agriculture),
University of Maiduguri.

2. Officer i/c Sambisa Game Reserve Forestry and Wildlife Services Division,
Ministry of Environment, Borno State.

ABSTRACT

This study determined the species list and status of mammals and birds in Sambisa Game Reserve. Species list was determined using direct sighting, animal signs and activities, information from hunters and visits to bush meat processing and selling centers. Results indicate that a total of seventeen (17) species of mammals and fourteen (14) species of birds were inventoried in Sambisa Game Reserve. The status of the mammals is low though the primates are at low risk category whose survival depends on the effective conservation measures. All the birds with the exception of garganey are known to breed in the reserve. It can be concluded from the result that Sambisa Game Reserve contains representative sample of fauna in the Savanna ecosystems of Nigeria.

Key words: Game Reserve, Mammals, Birds, Checklist and Status.

INTRODUCTION

Species listing is an important initial stage in the collection of appropriate data necessary for effective management and conservation of animals and plants in a protected area. Knowledge of the species composition of a protected area, their status and how they relate with other components of the habitat is highly essential.

The status of the population of any individual species is a crucial information to the wild life ecologists, because this information determines individual fitness to its environment and also predicts their ultimate success or failure (Martins, 1990). He further reported that wildlife is increasingly being regarded as removable resources; hence, their status ought to be monitored to ensure proper utilization of their habitat.

Sambisa Game Reserve was gazetted as a forest reserve in 1958 and constituted to a Game Reserve in 1978 by the Borno State

Government, but no appreciable ecological survey of the resources has been carried out, hence, the dearth of information necessary for the development of the reserve. The need to develop the Game Reserve necessitated this research aimed at ascertaining the species of mammals and birds present in the reserve and their status. This baseline data will be used to develop the management plan of the reserve for the realization of the set objectives.

MATERIALS AND METHODS

The study area

Sambisa Game Reserve is located between longitude 13° 30' and 14° 00' E and latitude 11° 00' and 11° 30' N. It is about 70km south of Maiduguri in Borno State and is located 14km off Kawuri village along Maiduguri- Bama road.

The Reserve covers an area of 518km² on a fairly flat land drained by three main seasonally flowing streams (Kwada, Sambisa and Yuwe) which are tributaries of River

Yedzeram. Drainage is poor and the soils are liable to flooding. The climate of the area is characteristic of Sahel Savannah, marked by hot, dry and wet climates with mean annual temperature range between 28 °C- 29 °C and maximum temperature of over 48 °C at the onset of the rains. The minimum temperature of 21.5 °C is recorded between December and February during the harmattan period, (Borno State Government, 2008). The rain commences in May and ends in September with annual rainfall of about 190mm. The dry season lasts for about 7-8 months; November-June (BOSG 2008). The vegetation of the game reserve is broadly that of the Sudan Savanna with open woodland and patches of gallery forests. The combined long time effect of grazing, farming and felling of trees have significantly altered much of the natural vegetation of the game reserve. Of the large trees are *Tamarindus indica*, *Diospyros mespillformis*; *Balanites aegyptiaca*, *Combretum spp*, *Ziziphus mauritiana*, *Z .spina -christi* , *Acacia species* and *Adansonia digitata*. Grasses include *Pennisetum pedicellatum*, *Andropogon gayanus*, *Hyperhenia rufa* and *Cenchrus biflorus*.

The area has relatively abundant faunal resources; commonly sighted mammals are the primates (baboons and monkeys), gazelle, antelope, hare, squirrel and duiker. Birds include guinea fowl, ostrich, francolin, village weavers and Abyssinian ground hornbill.

DATA COLLECTION TECHNIQUES

Species list of Mammals and Birds

The species list was determined by direct sighting, indices as well as through information from hunters in the area and visit

to bush meat processing and selling centers.

Status of Mammals and Birds

Status assessment of mammals and birds is based on information from hunters and Game Rangers and follows Ezealor (2002).

DATA ANALYSIS

Species list of Mammals and Birds

Descriptive statistics and tables were used to analyze species of list of mammals and birds.

Status Categories of Mammals and Birds

Categories outlined by Ezealor (2002) were used to assign the status of mammals and of birds. This is as follows;

Vu = Vulnerable (Likely to become endangered if the factor that is posing threat persists).

LR/ cc= Low risk-conservation dependent (Species in no immediate danger but survival will depend on implementation of effective conservation measures in its range).

NT= near threatened (species is approaching the threshold of vulnerability)

EN= Endangered (species is unlikely to survive if the factor that is posing threat persists).

RB= Resident breeder

R {B}= Resident but breeding not approved.

PM = Palearctic migrant

Afm= Migrates within Nigeria

DD= Data deficient

RESULTS

Table 1; Species list, mode of identification and status of Mammals and Birds in Sambisa Game Reserve

SPECIES		MODE OF IDENTIFICATION				STATUS
COMMON NAME	ZOOLOGICAL NAME	DS	IND	INT	PC	CATEGORY
Mammals						
Redfronted Gazelle	<i>Gazella rufifrons</i>	x	x	x	x	vu
Roan Antelope	<i>Hippotragus equinus</i>	x	x	x	x	vu
Grimms Duiker	<i>Sylvicapra grimmia</i>	x	x	x	-	vu
Baboon	<i>Papio anubis</i>	x	x	x	-	LR/cd
Patas monkey	<i>Erythrocebus patas</i>	x	x	x	-	LR/cd
Tantalus monkey	<i>Cercopithecus aethiops</i>	x	-	x	x	
Kob	<i>Kobus kob</i>	x	-	x	x	NT
Hare	<i>Lepus capensis</i>	x	-	x	x	vu
Civet cat	<i>Civeticus civeta</i>	x	-	x	x	LR/cd
Squirrel	<i>Epixerus epii</i>	x	-	x	x	LR/cd
Topi	<i>Damalicus karrigum</i>	x	-	x	-	EN
Warthog	<i>Phocochoerus ethiopicus</i>	-	-	-	-	EN
Spotted Hyaena	<i>Crocuta crocuta</i>	-	x	x	-	vu
Elephant	<i>Loxodonta africana</i>	-	x	x	-	EN
Porcupine	<i>Hysterix cristata</i>	-	x	x	x	vu
Grass cutter	<i>Thryonomis swinderianus</i>	x	x	x	x	LR/cd
Giant Rat	<i>Crycetamys gambiansis</i>	x	x	x	x	LR/cd

Family; Phasianidae

Guinea fowl	<i>Numida</i>	x	x	x	x	RB
	<i>meleagris</i>					

Double-spurred

Francolin	<i>Francolinus</i>					
	<i>bicalcalaratus</i>	x	x	x	x	RB

Family; Ploccidae

Village weavers	<i>Ploceus</i>	x	x	-	-	RB
	<i>cucullatus</i>					

Family; Otididae

White bellied	<i>Eupoditis</i>	x	-	-	-	RB
Bustard	<i>senegalensis</i>					

Family; BucerotidaeAbyssinian
ground

Hornbill	<i>Bucarvus</i>	x	-	x	-	RB
	<i>abyssinicus</i>					

Family; Ardeidae

Cattle egret	<i>Bubulcus ibis</i>	x	-	-	-	RB
--------------	----------------------	---	---	---	---	----

Family; Struthionidae

Ostrich	<i>Struthio</i>	x	-	x	-	RB
	<i>camelus</i>					

Family; Columbidae

Laughing dove	<i>Streptopalia</i>	x	-	-	-	RB
	<i>senegalensis</i>					

Family; Apodidae

African black switt	<i>Apus barbatus</i>	x	-	-	-	RB
---------------------	----------------------	---	---	---	---	----

Family Accipitridae

Black kites	<i>Milvus migrans</i>	x	-	-	-	RB
-------------	-----------------------	---	---	---	---	----

Family; Cuculidae

African cuckoo	<i>Cuculus gularis</i>	x	-	-	-	RB
----------------	------------------------	---	---	---	---	----

Family; Threskiornithidae

Hadada ibis	<i>Bostrychia</i>	x	-	x	x	RB
	<i>hagadash</i>					

Family; Accipitridae

Tawny eagle	<i>Aquila rapax</i>	x	-	-	-	RB
-------------	---------------------	---	---	---	---	----

Family; Anatidae

Garganey	<i>Anas</i>	x	-	x	x	R (B)
	<i>querquedula</i>					

In the above table;

DS = Direct Sighting

IND = Indices (Animals sign and activities)

INT = Interview of hunters

PC = Bush meat processing and selling centers

DISCUSSION

Species list of Mammals and Birds

Table 1 shows the result of the inventory of mammals and birds. The result indicates that a total of seventeen (17) species of mammals and fourteen (14) species of birds were inventoried in Sambisa Game Reserve. Thirteen (13) species of mammals were identified through direct sighting while (4) through their signs and activities as well as through interviews of hunters and bush meat processing and selling centers. All the birds were identified through direct sighting.

The relatively high incidence of baboon, patas and tantalus monkeys in the game reserve may not be unconnected to the fact that primates are not accepted as meat by the people in the surrounding communities. Similar observations have been made by Akosim (1997) at Pandam Wildlife Park. The relatively low status of some mammals in the reserve such as antelopes and warthog suggests high incidence of poaching because of the very little effort being made to protect the resources of the reserve.

The total number of seventeen mammalian species is just about 6.8% of 247 species reported for Nigeria (Happold, 1978). The number is also lower than either of the 123 species reported for Guinea Savanna or 97 species for Sudan Savanna of Nigeria (Happold, 1987).

The relatively low species richness of the

reserve might not be unconnected with its size (518 km²) which is relatively small compared to the size of Guinea Savanna (473,904 km²) or Sudan Savanna (927,338km²). This observation agrees with Usher (1992) report, that species diversity is often affected by the size of habitat and that diversity is positively correlated with habitat size. The high incidence of poaching, felling of trees for fuel wood, habitat fragmentation for agricultural cultivation and lack of perennial water might have also contributed to the low species richness of the game reserve.

STATUS OF MAMMALS AND BIRDS

Table 1 shows the result of the status of the mammals and avian species inventoried in the game reserve. The result indicates that Red-fronted gazelle, Roan antelope, Grimm's duiker, Hare, Spotted hyaena and Porcupine are of the vulnerable category; Squirrel, Grass-cutter and Giant rat are at the lower risk conservation dependent category. Kob is near threatened approaching the threshold of vulnerability. This is because of its high preference for bush meat and its low-biotic potential, i.e. one young per reproductive cycle. Topi, Warthog and Elephant are of the endangered category of status. All the birds inventoried with the exception of Garganey are resident and breeds in the reserve. Garganey appears and disappears; hence there is doubt over its status but not of occurrence in the reserve.

Some wild animals have higher tolerance of hunting pressure than other because of their home range and their reproductive potentials. Some may be subjected to less hunting pressure because the taste and acceptance of their meat or their ease of preparation. Local techniques used in capturing some species

also put them under varying pressures.

CONCLUSION

The relatively low species richness of the reserve might not be unconnected to its size (518 km²) which is relatively small compared to the size of Guinea Savanna (473,904 km²) or Sudan Savanna (927,338km²). This observation agrees with Usher (1992) report, that species diversity is often affected by the size of habitat and that diversity is positively correlated with habitat size. The high incidence of poaching, felling of trees for fuel wood, habitat fragmentation for agricultural cultivation and lack of perennial water might have contributed to the low species richness of the game reserve.

REFERENCES:

- Akosim, C. (1997). Evaluation of Biodiversity Conservation and Management Programmes in Pandam Wildlife Park, Plateau State, Nigeria. Ph.D Thesis, University of Ibadan. pp 1-130.
- Borno State Government-BOSG (2008). Ministry of Information, Home Affairs and Culture Diary.
- Ezealor, A.U.ed. (2002). *Critical Sites for Biodiversity Conservation in Nigeria*. NCF; Lagos, Nig. pp 109
- Happold, D.C.D. (1987). *The Mammals of Nigeria*; Oxford press, London.
- Martin.C.(1990). *The Rainforest of West Africa*. Birkhauser,London.
- Usher, M.B. (1992). *Conservation Biology; A Training Manual for Biological Diversity and Genetic Resources*. Rapoor- Vijay and White (Ed.) pp 80-83