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Abstract: The cheetah is mentioned in the list of the species presents in Nigeria and classified as Vulnerable.

Le guépard est mentionné dans la liste des espèces présentes au Nigeria et est classée vulnérable.

FINAL REPORT

BIOLOGICAL SURVEY OF NIGERIA

A program development submitted to the IUCN

by

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CONCLUSIONS AND RECOMMENDATIONS

- 1- Nigeria is presently confronted with serious wildlife conservation problems: more than 50 species or groups of species are known to be endangered, particularly in the monkey, the felidae and the bovidae (duikers, gazelles and antelopes) and the bird families. This is due to:
 - ° excessive harvest of wildlife by the subsistence and the commercial hunters
 - ° irreversible transformation of the rain forest belt and non-sustainable exploitation of the remaining patches, causing continuing wildlife habitat loss.
 - ° competition for water resource in the Chad basin in the north of the country, threatening important wetlands used by migratory birds as wintering area and a vital subsistence farming economy.
 - ° lack of sufficient funding and personnel for the government conservation agencies at the federal and states levels
 - ° insufficient public awareness for the conservation problems
- 2- The Biological Survey will help solve these problems by:
 - ° collecting data on the state of Nigeria's wildlife resource
 - ° making these data available to agencies responsible for the conservation and management of these resources
 - ° insuring the formation of an adequate supply of trained personnel for the management of the resources and the protected areas
 - ° increasing public awareness for conservation
- 3- The Biological Survey is proposed as a permanent coordinating center to bring together the efforts of existing government bodies in developing and maintaining a data base on the status and trend of important wildlife populations.
- 4- The Biological Survey will include costs of hiring, training and formation of personnel in wildlife conservation. The school of New-Bussa is to be transformed into an Environmental Management Training Center.
- 5- Management recommendations:

LAW ENFORCEMENT

- °The list of threatened or endangered species should be reviewed in light of the results obtained from the survey and through continuous research.

- °The articles of Decree #11 should be reviewed to allow more flexibility in protection measures.
- °Establish conservation officer positions throughout the country (under federal or state responsibility) with the mandate to implement Decree #11. Presently, it is only at airports and in some reserves and parks that enforcement takes place.
- ° Better equipment, better training, higher classification levels and better working conditions and incentives for existing enforcement positions in parks and reserves.
 - ° The wardens, who are facing dangerous situations in their duty, should be armed.
 - ° The use of all-terrain vehicles and efficient communication system would increase considerably the effectiveness and the security of the wardens patrols.
 - ° The enforcement programs need be better planned.
 - ° The wardens positions are presently at a level too low to attract interesting candidates with sufficient education.
 - ° The training of the wardens need to be better supported by insuring more adequate facilities in laboratory and field equipment to the warden school in New-Bussa. Re-training of personnel in place should be considered.
 - ° Job conditions need be reviewed to insure off-duty time at reasonable intervals.

HABITAT CONSERVATION

A more vigorous habitat conservation program is needed. Presently, only 3% of the total area is under some form of protection for wildlife conservation, and due to relaxed enforcement efforts, these conservation areas are not sufficiently protected. It is generally considered that 10% is an acceptable minimum that should be aimed at.

- ° Development of an Habitat Protection legislation. A list of habitats essential for the conservation of endangered species should be established and specific protection afforded to the identified sites. The protection of wetlands against alternative use of water needs to be insured in a country that is suffering from increased desertification.
- ° Protect outstanding areas such as existing parks and reserves and the sites identified under an habitat protection legislation against detrimental factors, such as grazing, uncontrolled wood cutting and fires.

- ° A special problem of national concern, the widespread grazing by the nomadic Fulani cattle needs to be addressed. It is estimated that 1 million Fulanis roam the country at present. Very fundamental decisions need be made concerning the level of cattle population that the country can tolerate. A sedentarisation program should be considered.
- ° Antelopes need protection. The key areas for antelopes in Nigeria are Kanji Lake NP, Yankari GR, Okomu FR, Cross River NP and Gashaka Gumti NP, and in general, the moist forests. These parks and reserves, and additionnal representative areas in the moist forest should be protected to ensure the permanency of the majority of the species of that group of animals.
- ° Publicize the creation and existence of parks and reserves to obtain the collaboration of the population in wildlife protection measures.
- ° Identify and post the limits of the conservation areas.
- ° Protection of additional representative areas in the rain forest, west of the Niger river, and in the mangroves is recommended. The site of the Okumu forest reserve is proposed as an additionnal park site in the rain forest. In the mangrove, the Niger delta should be explored for a potential park area: the proposed site would not only protect a unique representative area of the Nigerian lanscape, but would also protect animals such as the Manatee and the Pigmy Hippopotamus which are known to occur in the delta.
- ° Due to the paucity of remnant sites west of the Niger, Ifon GR should also be considered as a National Park.
- ° For the conservation of Birds, the Kagoro forest reserve, the Hadejia wetlands and Lake Chad, Wase rock, the Obudu Forest reserve, and in general the Obudu plateau stand out as areas that deserve special conservation.

RESEARCH

- ° Research on the distribution, the biology, and the habitat requirements of threatened populations or animals need to be developed and supported financially. Universities should be encouraged and supported in initiating more research on the biological requirements of animals included in the protection categories.
- ° Complete the amphibians distribution pattern, and determine essential habitats for endemic species.

BUSHMEAT PRODUCTION

- ° To reduce the harvest of wild animals, a bushmeat domestic production program should be experimented.

INFORMATION PROGRAM

° Circulate scientific literature and reports. Systematic distribution of recent documentation should be organized to meet this very basic need. Documentation centers need be established in the head offices of National Parks, and particularly, at the National Conservation Training Center in New Bussa.

° Interactions with the Public. People, particularly those living in rural communities are not aware of the serious conservation problems that the country is facing. Rural communities should be involved in the management process.

° Publicity: it is in the country's interest to publicize at the international level the conservation measures taken by the government.

ADMINISTRATIVE MEASURES

° The responsible federal government agency should be made a separate Department. Wildlife management is of sufficient importance in Nigeria to be handled by a separate body.

forest duikers, and Bates' pigmy antelope. Among forest antelopes, Maxwell's and black duikers occur only to the west of Niger River, blue duiker and Bates' pigmy antelope only to the east of the Niger, and bay and Ogilby's duikers only to the east of the Cross River (Anadu and Green, in prep.).

The key areas for antelopes in Nigeria are Kanji Lake NP, Yankari GR, Okomu FR, Cross River and Gashaka Gumti proposed NP, and in general, the moist forests (IUCN/SSC, 1987). These parks and reserves, and additional representative areas in the moist forest should be protected to ensure the permanency of the majority of the species of that group of animals. At present, the level of wildlife protection in Nigeria's conservation areas range from poor to non-existent. The case of Yankari GR may be typical: conflicts between wildlife conservation authorities and nomadic herdsman, large scale encroachment by agriculture, illegal hunting (1,000 hunters are currently using the Park, according to the General Manager) and insufficient finance, personnel and equipment are prevalent. The country's other savanna game reserves receive even less conservation attention. It would be desirable to replace the present destructive hunting activity with sustained-yield harvesting. (Anadu and Green, in prep., see also Ebin 1983.)

Conservation of Felidae

A total ban on hunting of felidae, particularly leopard, is recommended. Leopard favors riverine patches in woodland and forest zone, precisely those areas first occupied by humans. The elimination of large herbivores by humans create a higher competition for smaller mammals, putting pressure on leopard (Myers, 1976). A better conservation of larger mammals would also favor leopards.

Conservation of Primates

Following recommendations from Oates (1985), the survey of Undo and Ogun States, Oban Hills and Niger-Cross river areas needs to be completed. A protection status for Okomu forest should be implemented.

Conservation of Birds

The Kagoro forest reserve, the Hadejia wetlands and Lake Chad, Wase rock, the Obudu forest, located in Cross river proposed NP and in general the Obudu plateau stand out as areas which due to their outstanding populations of forest birds deserve special conservation measures. (Collar and Stuart, 1988; Stuart and Adam, in prep; Ash, 1987; Wilkinson and Beecroft, 1988)

Amphibians and Reptiles

Crocodyles - A reintroduction program should be contemplated to compensate for the important decrease in wild populations.

Phyttons- Based on population estimates originating from hunters surveys, establish and enforce harvest quotas.

Amphibians - Complete the species distribution pattern, and determine essential habitats for endemic species.

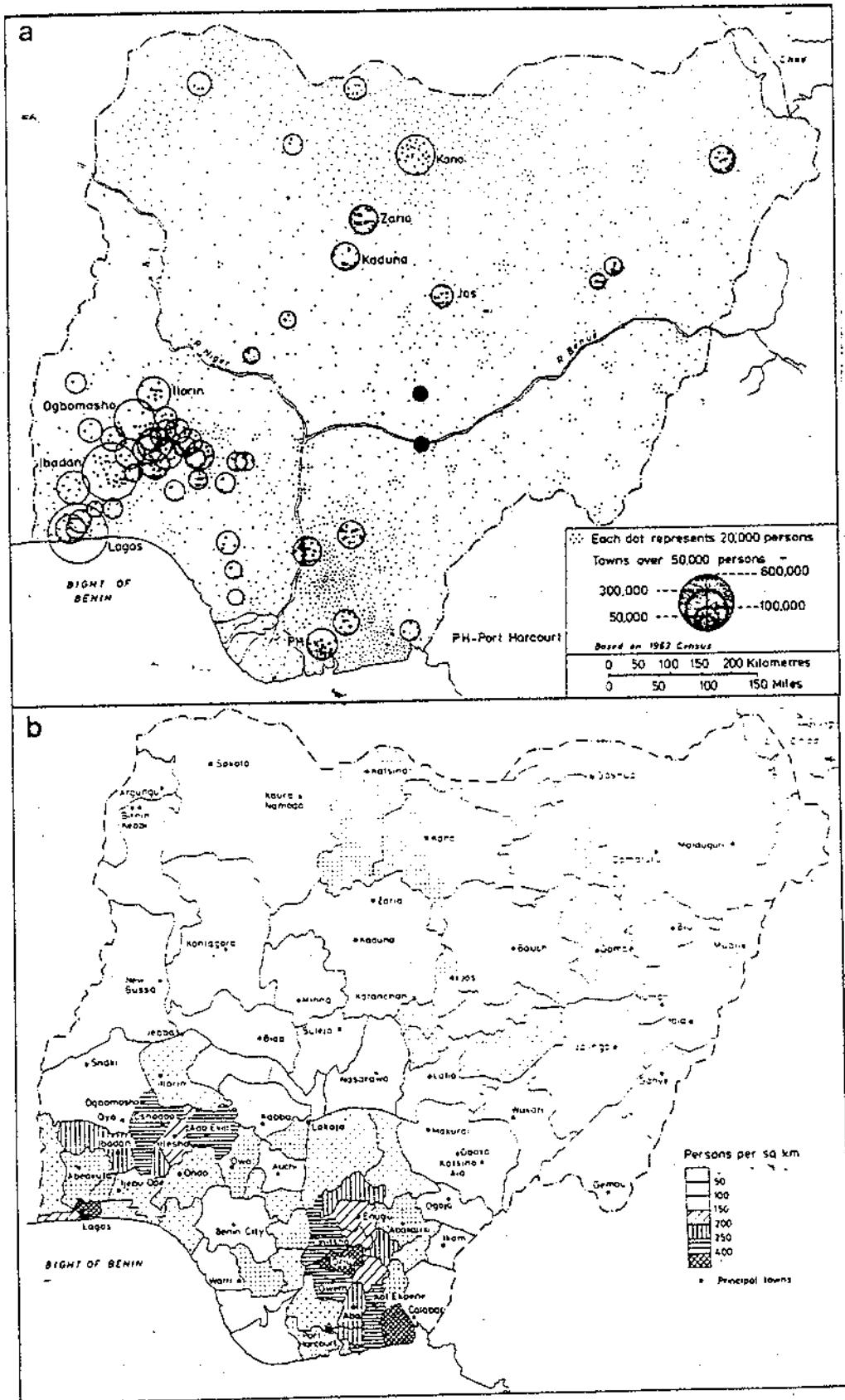


Figure 1: Population density in Nigeria (After Barbour, 1982).

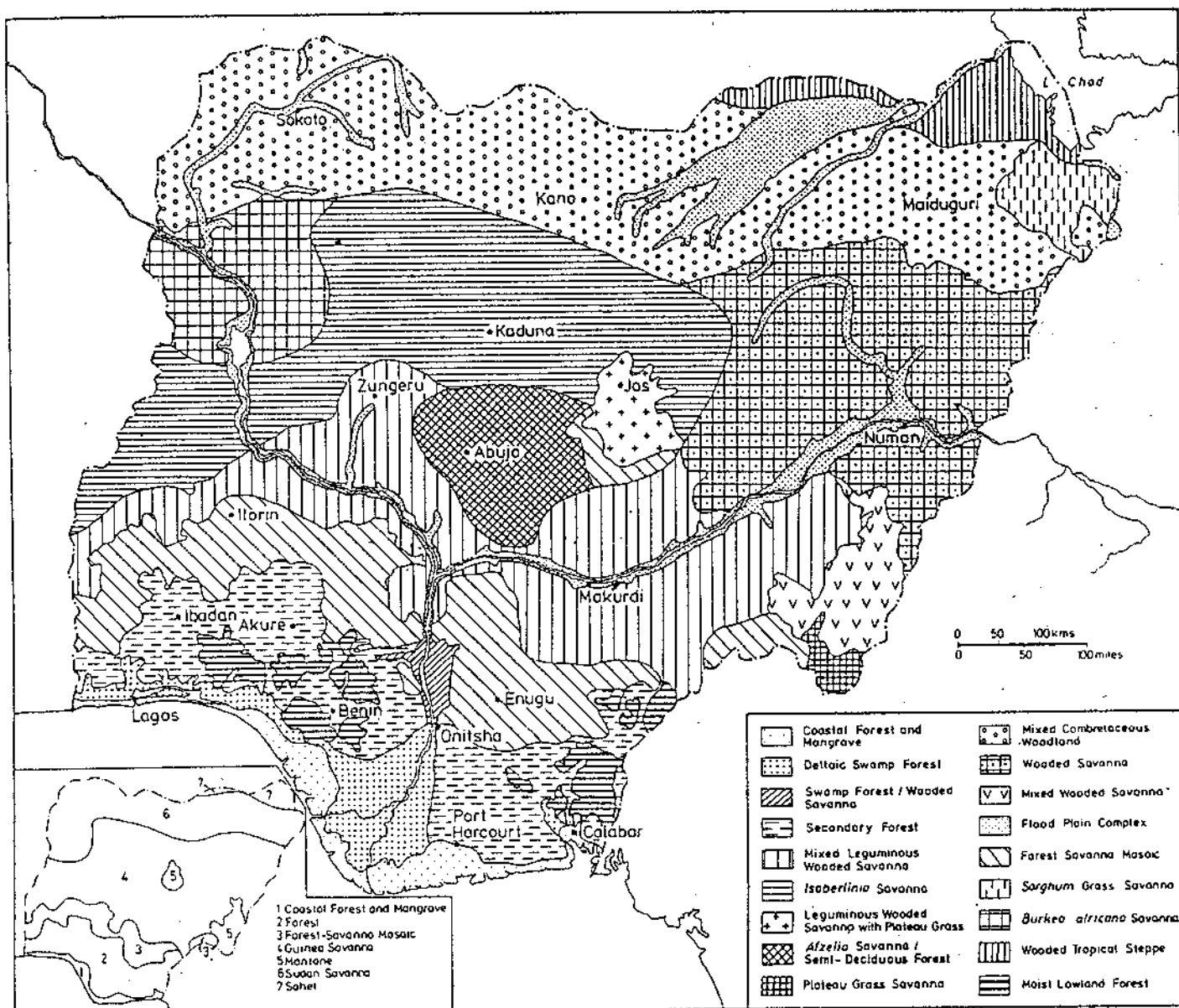


Figure 2: The vegetation of Nigeria (After Barbour, 1982).

			7(E),8
Cercopithecidae			
<i>Cercocebus torquatus</i>	Red-capped Mangabey	V	1,2,7(E)
<i>Cercopithecus diana</i>	Diana Monkey	V	1
<i>Cercopithecus erythrogaster</i>	White-throated Guenon	E	1,2,8
<i>Cercopithecus erythrotis</i>	Red-eared Guenon	E	1,2,8(?)
<i>Cercopithecus preussi</i>	Preuss's Guenon	E	1,8(?)
<i>Procolobus badius</i>	Western red Colobus	V	1,8(Ex)
<i>Procolobus verus</i>	Olive Colobus	V	1,2(R) 7(E)8(?)
<i>Mandrillus leucophaeus</i>	Drill	E	1,2,7 8(Ex)
Pongidae			
<i>Gorilla gorilla</i>	Western lowland Gorilla	V	1,2,7(E) 8
<i>Pan troglodytes</i>	Chimpanzee	V	1,2,7(E) 8
Manidae			
<i>Manis tetradactyla</i>	Long-tailed pangolin	E	7
<i>Manis tricuspis</i>	Tree pangolin	E	7
<i>Manis gigantea</i>	Giant pangolin	E	7
Histricyidae			
<i>Atherurus africanus</i>	Bush-tailed porcupine	E	7
Canidae			
<i>Lycaon pictus</i>	Hunting dog	E	7,8(I)
Mustelidae			
<i>Aonyx capensis</i>	Cape Clawless otter	E	7,8(I)
<i>Lutra maculicollis</i>	Spotted-necked Otter	E	7,8(I)
Hyaenidae			
<i>Crocuta crocuta</i>	Spotted Hyaena	E	7,8(I)
<i>Hyaena hyaena</i>	Striped Hyaena	E	7,8(I)
Felidae			
<i>Felis caracal</i>	Caracal	E	7,8(I)
<i>Felis libica</i>	African Wild cat	E	7,8(I)
<i>Felis serval</i>	Serval	E	7,8(I)
<i>Acinonyx jubatus</i>	Cheetah	V	1,7(E) 8(I)
<i>Panthera leo</i>	Lion	E	7,8(I)
<i>Panthera pardus</i>	Leopard	T	1,7(E) 8(I)
Trichedidae			
<i>Trichechus senegalensis</i>	Manatee	E	1,7,8(I)
Oryteropodidae			
<i>Orycteropus afer</i>	Aardvark	E	7,8(I)
Elephantidae			
<i>Loxodonta africana</i>	African Elephant	V	1,7,8(I)