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ASSESSMENT OF MANAGEMENT PRACTICES FOR UNGULATES IN OLD OYO NATIONAL PARK, NIGERIA

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Abstract
Assessment of the habitat management practices was investigated for four months to identify the various management strategies and threats affecting ungulates in Old Oyo National Park. The methods used for the study are observation techniques and questionnaire administration and data were analyzed descriptively. Results showed that four management practices (annual burning, anti poaching patrol, conservation awareness/education and boundary assessment/ surveillance) are in place for animals in Old Oyo National Park and they are not animal specific. Ungulates presently encountered in the study area are seven, Kob; Waterbuck; Bushbuck; Roan antelope, Oribi; Buffalo and Duikers. The threats to the Park vary in intensity among the ranges but the ones common to all the ranges of the Park are grazing, hunting and honey tapping. Mining is a major threat in Oyo ile range, while fishing with chemical is practiced in Sepeteri range; these threats have direct effects on the animals. Suggestion was made on the need to intensify anti-poaching patrol and conservation awareness to curb the level of encroachment into the Park.

Key Words: *Park management, habitat, ungulates, conservation*

Introduction

Ungulates represent the vast majority of large herbivores on the earth (Wilson and Reeder, 2005). They occur in nearly all zoogeographical regions except the Antarctica. Generally, 257 species of modern ungulates were recognized (Wilson and Reeder, 2005), five of which have become extinct due to human activities and other species are of critical conservation concern (Huffman, 2008). Modifications of the range to meet the requirement of wild life are called habitat management (Singh, 2005), these modifications include food, water, and shelter. According to Onadeko (2004), habitat management is wildlife management; this management may consist of complete protection of the habitat in order to keep it suitable for certain kind of game, for example the browsers (Danladi, 1999). Wildlife management by definition attempts to balance the needs of wildlife with the needs of people using the best available science. This can include game keeping, wildlife conservation, and pest control (Wikipedia, 2001). Wildlife management can also mean the judicious use of the wildlife resources towards the attainment of scientific, ecological, economical, ethical, aesthetic and recreational objectives for the benefit of human – beings and for the improvement of nature, upon which all the

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components of ecosystem depend. It is science and art of manipulation of structure, dynamics and relations of the wild populations, its habitats and the concerned people in order to achieve specific human goals by means of wildlife resources (Singh, 2005). The habitat requirement for each ungulate differs and the environment needs manipulation to meet these requirements.

It is expected that wildlife management should benefit wildlife, but some management practices have unknown consequence. Juffe-Bignoli *et al.* (2014) observed that management interventions can cause habitat degradation and become threats to protected areas. This includes fire and fire suppression, dams and water management or use, fragmentation within protected areas and isolation of protected areas in wider landscape.

The alarming rate at which Nigeria is losing its natural ecosystem both in the protected and free hold areas is an indication that the country is confronted with serious problems of environmental conservation (Lawan, 2002).With over 50 species or groups of species of fauna in Nigeria on the endangered list, particularly in the primates (monkey), the felidae (cat), the bovidae (Ungulates) and the bird families, a better approach to conservation management is needed to save these resources. These problems have been directly attributed to excessive hunting of wildlife by subsistence and commercial hunters, the irreversible transformation of forests and woodlands and the non-sustainable exploitation of the remaining areas throughout the country, causing continuing wildlife habitat loss.

Kie *et al.* (2000) reported prescribed burning as one of the ways to improve habitat for ungulates. Other ways though may be expensive, difficult to accomplish on a scale enough to substantially increase ungulates number and may conflict with other land-management goals. He also stated that, effective manipulation of habitat requires knowledge about the size of the ungulate population with respect to carrying capacity. For instance, a population held well below carrying capacity by predation is not limited by available forage, and manipulation of habitat to enhance animal numbers will not likely be successful. Conversely, appropriate manipulation of habitat to enhance animal numbers for population near carrying capacity holds great promise for increasing population size and allowable harvest.

The manipulation of environment by man for his needs is the most prevalent factor affecting wildlife habitat and consequently the wildlife populations. Man's use of these natural resources in his own way unscientifically caused bad impact on the wildlife. Hence, habitat management and its preservation are as important as wildlife conservation. The wildlife manager must identify those factors, which affect the habitat, and understand the interrelationships between the animal and habitat. In line with this, the Wildlife Society in 2012 reviewed and examined the most significant issues facing management of ungulate in National Parks of the U.S. and Canada and recommended how to cope with the challenges (Wildlife Society, 2012). Brittingham and Delong (1998) stated that enhancing wildlife habitat through management practices leads to improvement of the habitat quality which in turn increases the population of animals in the range.

It is therefore important to evaluate the management practices and activities in place for ungulates in Old Oyo National Park. This could be achieved through identification of various management practices in place for Old Oyo National Park and identification of threats and pressures to park management in Old Oyo National Park.

Methodology

Study Area

Old Oyo National Park is one of the seven National Parks in Nigeria created by decree number 36 of 1991. Earlier existed as two contiguous forest reserves; Upper Ogun and Oyo-Ile and gazetted in 1936 and 1941 respectively. The park is located in the west-central part of Nigeria in northern Oyo state and lies between latitude 8°10′N and 9°05′N and longitutde.3°and4°20′E.The total park area is 2,512sq.km. The park derives its name from ruins of Oyo-ile, the political capital of ancient Oyo Empire and is characterized by a high forest and dense savannah mosaic woodland ecosystem. It is rich in fauna and flora resources such as Roan antelope, (*Hippotragus equinus*), Western hartebeest (*Alcelaphus buselaphus*), Red flanked duiker (*Cephalophus rufilatus*), Oribi (*Ourebia ourebi*), Buffon's kob, (*Kobus kob*), Buffalo (*Syncerus caffer*), Common or Grimm's duiker (*Sylvicapra grimmia*), Bushbuck (*Tragelaphus scriptus*), Baboon (*Papio anubis*), and a wide variety of birds. Ibadan malimbe, (*Malimbeus ibadanensis*) one of the two endemic species of bird in Nigeria is found in the park. The vegetation of the park include dense woodland and forests outlier in the southeastern part, mixed open savanna woodland in the central part, outcrop vegetation in the northeast and riparian grassland and fringing woodland occupying the forest plains and valleys along the Ogun River. The Park is easily accessible from any part of the Country. Figure 1 shows map of Old Oyo National Park and a few of the surrounding town and villages. The Park has five ranges; these are Marguba, Ogundiran-Tede, Oyo-Ile, Sepeteri, and Yemoso.

Data Collection

Fifty questionnaires were administered in the five (5) ranges of the Park, ten (10) in each range. The questionnaires were given to field and protection staffs that were usually in the ranges to elicit information on the different management practices embarked upon by the park management to improve the habitat conditions for ungulates. Direct observation: Observation of the various habitat management practices such as burning, anti-poaching patrols, boundary assessment to ascertain whether and how they are carried out within the park ranges. This was collected over a period of four months. Ungulate species identification followed (Agbelusi *et al*., 2003). Threat to the habitat of the animals were also observed and documented. The data were analyzed using descriptive analysis.

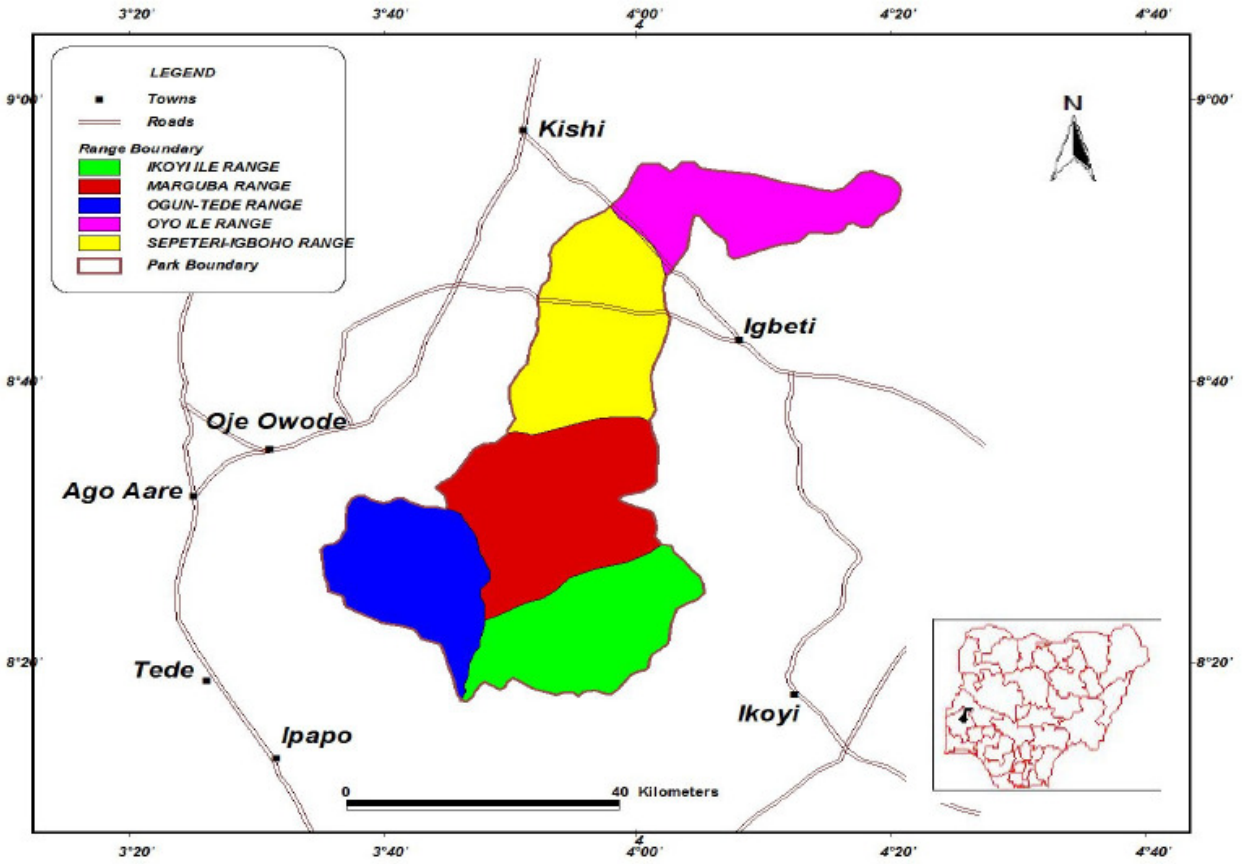

Figure 1: Map of Old Oyo National Park
Source: Ogunjinmi, 2010

RESULTS

The results of the management practices for ungulates in Old Oyo National Park revealed that there were four major practices for animals and habitat management. These include; anti-poaching patrol, burning, boundary surveillance and conservation education (Table1). Seventy-eight percent of protection staff stated that patrol is carried out on weekly basis while 22% indicated that patrol is carried out on a daily basis (Figure 2). From the study, it was revealed that early burning usually start in Oyo – ile and Sepeteri ranges. This is because these ranges experience dry periods before other ranges as their location is at the northern part of the park.

Ungulate species sighted during the study were seven as presented in Table 2, these are Kobs (*Kobu kob*), Waterbuck, (*Kobus defassa*), bushbuck, (*Tragelaphus scriptus*) Oribi (*Ourebia Ourebi*), Roan antelope (*Hippotragus equinus*), duiker (*Silvicapra grimmia*) and buffalo (*Syncerus caffer*). Also in Table 2, 88% and 86% respondents agreed that kobs and bushbuck ranked highest while buffalo was lowest with 4% respondents. Western hartebeest was no longer seen in the park.

Threats identified in the park are hunting, grazing, fishing, mining, honey tapping and farming and logging (Table 3). Hunting, grazing and honey tapping were common to all the five ranges. Farming was a threat in Sepeteri and Yemoso ranges, while mining posed as threat only in Oyo-Ile range. Findings revealed that logging was the highest threat confronting Yemoso

range, followed by grazing and hunting. Farming and mining activities were not threats to Yemoso range. Table 4 shows the severity of threats in the ranges of Old Oyo National Park. In Sepeteri range, honey tapping was high, fishing and grazing were medium while hunting was low, but farming and mining were not threats to Sepeteri range. In Marguba range, grazing is high, hunting and honey tapping low while fishing, farming and mining were not part of the threats confronting Marguba range. However, in Oyo ile range, grazing and hunting were high, while hunting and honey tapping and fishing were rated low. Mining and logging were not threats to Oyo ile range.

Table 1: Management Practices normally carried out in Old Oyo National Park

Management Practices	No. of Respondents	Percentages (%)
Anti poaching patrol	50	100
Bush burning	50	100
Conservation Education	32	64
Boundary assessment / surveillance	1	02

Table 2: Species of Ungulates Encountered in Old Oyo National Park

Ungulates	Number of Respondents	Percentages (%)
Kobs	44	88
Water bucks	11	22
Bush bucks	43	86
Oribi	18	36
Roan antelope	18	36
Duikers	21	42
Bufallo	02	04

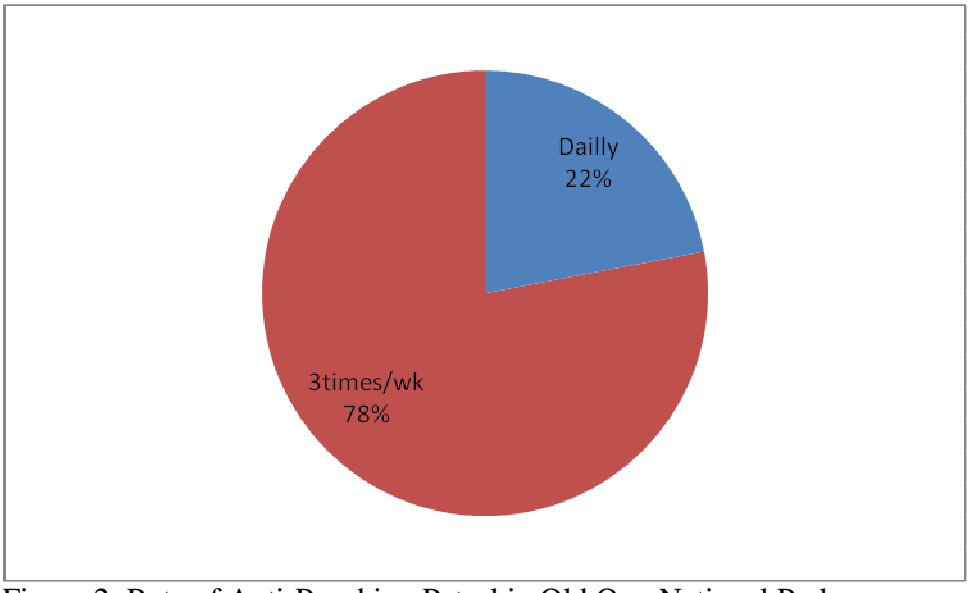

Figure 2: Rate of Anti-Poaching Patrol in Old Oyo National Park

Table 3: Threats identified in the ranges of Old Oyo National Park

Ranges	Marguba	Yemoso	Tede	Sepeteri	Oyo-Ile
Threats					
Hunting	+	+	+	+	+
Grazing	+	+	+	+	+
Farming	_	+	-	+	-
Honey tapping	+	+	+	+	+
Fishing	+	+	+	+	-
Mining	-	-	-	-	+
Logging	-	-	+	+	+

Key + = present -- absent

Table 4: Severity of the identified Threats in Old Oyo National Park

Threats	Range				
	Marguba	Yemoso	Tede	Sepeteri	Oyo-Ile
Hunting	Low	Low	Low	High	High
Grazing	High	Medium	Low	Medium	High
Farming	None	None	Average	None	Low
Honey tapping	High	Low	Medium	High	Low
Fishing	None	Low	Medium	Medium	Low
Mining	None	None	None	None	Average
Logging	Low	High	Medium	None	Average

Note: High=>70%; medium 60% = 50%;average = 40-59% and Low= <40%

Discussions

Anti-poaching patrol, boundary assessment, conservation education and annual bush burning exercises are the major management strategies that are in place for the management of wild animals (fauna) in Old Oyo National Park. Anti-poaching patrol exercise is a major management practice in the park; this is usually done on a daily basis and three times a week depending on the available information on illegal activities within the ranges. Patrol is carried out using field vehicles, motorcycles and most of the time on foot and overnight camping, moving from one strategic location to another where destructive activities are high. Intensive patrol requires daily patrol to curb poaching menace within the ranges.

This agrees with the statement by Haruna *et al*. (1996) that restoration of depleted population of large mammals in Nigeria National Park requires intensive and extensive anti-poaching patrol programme. For effectiveness of anti-poaching patrol, the park has been divided into five ranges namely, Marguba, Oyo-Ile, Sepeteri, Tede and Yemoso ranges while the ranges have several beats under them. Each of the range is equipped with a four wheel vehicle.

The conservation education and awareness program is usually conducted round the villages and town surrounding the park, otherwise referred to as support zone communities to enlighten them on conservation issues and to gain their support since the major threats affecting the wild animals are anthropogenic. This is in tandem with the submission of Michael (2010) that in order to prevent depletion of wildlife resources, usage of species and their ecosystem must be regulated, and these regulatory efforts must include setting harvest limits and methods, protecting wildlife habitat, educating the public, enforcing game laws, researching wildlife

ecology and mitigating human-wildlife conflicts.

Burning is annual management practice in the park; fire regime revealed that both early and late burning are practiced in all the ranges of the park. However, late burning does not take place except in areas where vegetation is high. Controlled burning, carried out during the early burning exercise affords most herbivorous wild animals the opportunity to graze on new succulent part of the vegetation which is more nutritive.

Ungulates available in Old Oyo National Park as at the time of study were seven; these are Kobs, Waterbuck, Duikers, Bush buck, Oribi, Roan antelope and Buffaloes. Western hartebeest has become locally extinct to Old Oyo National Park. Among the identified threat Old Oyo National Park, hunting, grazing and honey tapping were major threats affecting all the ranges. Fishing is common to all the ranges except Oyo-ile range. Logging threatens the park's three ranges, Tede, Sepeteri andOyo-Ile but does not pose threats in Marguba and Yemoso ranges. Farming is a threat in only two ranges, Yemoso and Sepeteri while it does not pose threat in other three, Marguba, Oyo-ile and Tede ranges. Mining pose as threat to Oyo-ile range but not in the other four ranges.

The degree and severity of threat in the ranges revealed that logging was a high threat in Yemoso range while hunting was low. In Sepeteri range, honey tapping was high threat while hunting was low; Tede was the only range where no threat activity is high. They are all rated as low and medium. Marguba range has high level of grazing and honey tapping activities while hunting was rated low. Also, in Oyo-ile range, grazing and hunting was high, while honey tapping is low.

Hunting activities were recorded across the park. These were frequently reported in dry season when the park is easily accessible and visibility was very high. Grazing activity in the park by the Fulani Bororo and Bokolo nomads is another major threat to wild animal in the park. They also encroached into the park during the dry season of the years. This was observed by Oladeji *et al.* (2012); that poaching activity in and around the park as well as the unwise use of natural resources have been the major problems (threats) facing the park and have led to the extinction of some fauna species.

Conclusion

The study revealed that there were only seven (7) species of ungulates in Old Oyo National Park. The ungulates are; kobs, bush bucks, duikers, roan antelopes, water bucks, Oribi, and buffaloes which is very rear now in the park. The management practices that are in place in the park are for the all wildlife resources, there is no any special management put in place for ungulates which makes some of the ungulates to become locally extinct. The major threats that affect the ungulates in the park are anthropogenic in nature and these are; hunting, grazing, fishing, hunting, honey tapping, farming, logging.

Recommendation

There is need to manage the park in a purely natural and scientific manner such that the park can serve as refuge for ungulates. It needs to create artificial sources of waters, reseeding, and saltlicks for the ungulates, this will help the ungulates to spread round the park instead of their concentration on a place and the tourist will be able to sight them in any of the ranges visited. However, the followings are hereby recommended:

(1) ***Introduction of Community Participation***; The management of Old Oyo National Park should encouraged the management of the park through Community Participation, this subject to

the fact that, most of the threats confronting ungulates in the park were caused by the communities surrounding the park, so, park should not rely on the use of force or law alone.

(2) ***Enlightenment campaign***; The park authority should embark on enlightenment campaign to towns and villages surrounding the park, and also through the use of radio, television and press in both English Language and Local Languages for the benefit of the illiterate who are the majority leaving in our rural areas.

(3) The government should provide Grazing Reserve for nomad cattle-rearers to discourage them from entering in to the Park.

(4) Regular and effective anti-poaching patrol; There should be regular and effective anti-poaching patrol to curb series of threats in the Park

(5) Government should endeavor to impose stiffer penalty for anybody that may encroached into the park as this is the only way to protect the park against the notorious poachers.

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