

## Association pour la Conservation de la Nature au Rwanda

### Progress Report on Vulture Survey in Kigali city, Rwanda.



**Project Title:** Assessment of Vulture Distribution, Population size, Threats of Critically Endangered and Endangered Vultures in Kigali city, Rwanda.

**Duration:** 10 months, from July 2017 to May 2018.

**Funded :** African Bird Club (ABC).

**Prepared by:** Gilbert Micomyiza

Kigali, on 16th April, 2018

## Contents

1. Introduction and Background. ....	3
1.2. Project Objectives; .....	4
2. Methodology;.....	4
2.1. Study Area .....	4
2.1. Equipment used in survey.....	4
2.2. Total count;.....	4
3.Results and Discussion .....	6
3.1. Total count at Roosting and Feeding site. ....	6
3.2. Threats Assessment: .....	7
4. Conclusion and Recommendation: .....	8
5. Planned activities in the April and May 2018. ....	8
6. References: .....	9
7. Annex: .....	10
Some field photos. ....	10

## 1. Introduction and Background.

Vultures are among the most distinctive and charismatic species of Africa's wildlife. They are nature's most successful scavengers, and play a vital ecological clean-up role by efficiently clearing decomposing carcasses from the environment. Their characteristic feeding behavior of stripping carcasses bare, prevents the formation of spores and thus halts the spread of diseases thereby preventing the outbreak of epidemic diseases such as Anthrax, Rabies, Tuberculosis, Botulism etc. Vultures also provide significant value and interest for wildlife tourism.

During the last 30 years, the population of vultures have been observed to have dropped 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 (Tende 2007, Rondeau and Thiollay 2004). The steady decline of Africa's vultures populations is worrying as some species like the White-backed Vulture are recorded to have exceeded 90% decline in West Africa (Thiollay 2006; Viraniet *al.* 2011).

Vulture's global decline was acknowledged in 2015 when four African vulture species were uplisted to Critically Endangered status in the IUCN Red List. All four Critically Endangered species are among the six species of vultures that are found in Rwanda. They are Ruppell's Vulture (*Gyps rueppellii*), White-headed Vulture (*Trigonoceps occipitalis*), White-backed Vulture (*Gyps africanus*) and the Hooded Vulture (*Necrosyrtes monachus*) and also the Lappet-faced Vulture which is listed as an Endangered species.

African Vultures are faced with a myriad of threats which are complex and are likely to increase as they are tangled with unsustainable development and anthropogenic activities, if mitigation measures are not put in place and implemented with urgency. Threats to Vultures include deliberate and accidental poisoning, harvesting for belief-based use, declining food availability, habitat degradation, collisions with energy infrastructure and power line electrocutions as well as disturbances at breeding sites.

The lack of information and inadequate scientific data on vulture's population abundance, distribution and specific threats in Kigali city as well as in the whole country makes it difficult to take appropriate conservation action on these endangered species. The information gap remains a major problem and therefore it requires immediate efforts to assess the current population status and distribution of Vulture species especially within urban areas, where threats are likely higher and more pronounced.

Recently, Association pour la Conservation de la Nature au Rwanda (ACNR) was awarded a grant by African Bird Club (ABC) to assess Population, Distribution and Threats to Critically Endangered and Endangered Vultures in Kigali city, Rwanda. The project objectives were guided by recommendations from the draft African-Eurasian Vulture Multi-Species Action Plan.

## 1.2. Project Objectives;

1. To determine what vulture species occur in Kigali and assess their population size and distribution.
2. Map out the distribution of feeding and roosting sites within Kigali city
3. Investigate threats facing identified vulture species in Kigali city.
4. Build capacity and raise awareness on vulture conservation.

## 2. Methodology;

### 2.1. Study Area

**Kigali** is the **capital** and largest **city** of **Rwanda**. It is near the nation's geographic centre. It was founded in 1907 with an **Elevation** of 1,567 m (5,141 ft). It is presently inhabited by approximately 1.2 million inhabitants and it is made up of three districts namely: Gasabo, Kicukiro and Nyarugenge (City 2016). The surveys were conducted in both three districts of Kigali city at 5 sites; 3 of them are abattoirs (Nyabugogo, Kabuga & Kicukiro abattoir) and 2 sites are landfills (Yanza & Nduba) where you can find the carcasses for Vulture and dumpsite where Vulture species were observed in range.

### 2.1. Equipment used in survey

- Pencil and eraser
- Small notebook for making our own notes of special events seen
- Watch
- Bird field data sheets /Developed by Birdlife international.
- Plastic sheets or large clear plastic bag to protect data sheets when raining
- Field guide Book of Birds of East Africa
- Binoculars: 10\*40
- GPS
- Camera
- Boots
- Rain coats
- Vehicle: Toyota land cruiser, RAC 621 Y.

### 2.2. Total count;

Total counts were used during the field visits to assess the vultures population size at roosting and feeding sites. On September 29th 2017, October 23rd 2017, and March 10th, 2018, **Association pour la Conservation de la Nature au Rwanda (ACNR)**, in collaboration with University of Rwanda (UR), Kigali city, the management of two (2) landfills and local persons around the sites conducted field surveys to identify vulture species, population and threats to vulture species at Yanza, Mwendo and Nduba landfills, as well as in Nyabugogo, Kicukiro and Kabuga abattoirs in Kigali city, Rwanda.

Counts at naturally occurring areas and those feeding on carcasses were conducted to estimate both species richness and relative densities. A total count at each site was undertaken from 6:30 AM to 10:00 PM and 17:00 to 18:00 PM.

Threat assessments were conducted at each site by the research team. The threats to vultures were recorded where they were encountered. All cases observed were investigated through interviews with local community and people working at abattoirs to determine the details on threats.

Field surveys for all types of carcasses (wild and domestic animals) and interviews were conducted to determine the food availability. For each carcass found, the species, details of origin and the vultures species present were recorded. Both survey techniques (total count, and interview) were done at each sites 10 survey sessions were conducted at 5 sites, 2 survey per each sites; one session in the rain season and others in the dry season, per site.

Coordinates were taken with GPS at each site to map vulture distribution at both sites using ARCGIS.



Count at Yanze site, September 2017



Interview with workers at Kicukiro abattoir/ACNR

### 3.Results and Discussion

#### 3.1. Total count at Roosting and Feeding site.

Only Hooded Vultures (CR) were observed in Yanze and Mwendo sites. No vulture species observed at Nduba landfill, Nyabugogo, Kicukiro and Kabuga abattoirs . A total of 30 individuals of Hooded Vultures were recorded at Yanze site in the first field survey conducted in the rainy season, on September 29, 2017 . On the other hand, during the second field survey conducted on March 19, 2018, no individuals of vulture species was recorded at Yanze sites as well as other sites .

Normally, Yanze site was an illegal landfill used by the local people where they deposit remnants (carcasses) from Nyabugogo abattoir after raw materials are processed to make poultry feed. Presently, this site is closed and all residuals from Nyabugogo abattoirs are now deposited in a new landfill named Mwendo.

Mwendo landfill is a new addition site to the scope of this project which is located in Kigali sector, Nyarugenge District, Kigali city. The survey conducted on March 19, 2018, at Mwendo site, recorded 22 individuals of Hooded Vultures .

The high numbers of Hooded Vultures at Mwendo and Yanze site were observed during feeding mainly on the carcasses of Cattle, Goats, Sheep etc. and roosting in Eucalyptus species at Yanze site and in the crowns of Grevellia and Acacia tree species, etc. at Mwendo site.



*Hooded vultures Roosting at Mwendo site (left) & Hooded vulture feeding with pied crow at Yanze site(right).*

The interview with local employees was conducted at Nduba Landfill , where the unidentified vultures of small individuals were coming for feeding in that dumpsite and roost in other unidentified places.

Other recorded birds at both sites include Pied Crow, Yellow-billed Kite, Black-headed Weaver Cattle Egret, African Flycatcher, Long-crested Eagle, and Pied Wagtail.

### 3.2. Threats Assessment:

The loss of habitat through felling of trees, lack of food/carcasses, inadequate awareness campaigns on vultures, hunting, traditional belief were recorded as main threats to vulture in Kigali city.

Insufficient food sources and felling of tall Eucalyptus tree species had impacted on the presence of Hooded Vulture at the Yanze site and led to loss of 30 individuals of Hooded Vultures which were recorded at this site in the survey done in September 2017. Probably due to the lack of food and suitable habitat at Yanze site, the vulture species may have shifted to Mwendo landfill where there is carrion from Nyabugogo abattoirs.

On October 23, 2017, on the field visit to Kicukiro abattoir known as Didy, the survey revealed that due to the felling of 30 stands of Eucalyptus trees often used as roosting trees in the last six months and decline of food sources (carrion) at Kicukiro abattoirs led to loss or possible migration of vultures species to an unknown location, since no vultures were seen at the site. The reason for cutting the trees is to prevent collision caused by birds that roost in these trees and airplanes plying Kanombe airport which is closer to Kicukiro abattoir.



*Eucalyptus species cut at Kicukiro Abattoir (left), Cleared Yanze landfill (Right), ACNR).*

This explains that the food availability and suitable habitat for Hooded Vulture play a significant role on the presence of Hooded Vulture in Kigali city.

Inadequate knowledge and awareness of vultures is still a problem to vulture conservation where many persons do not know vultures and confuse them with others big birds of prey like some eagle species. Also they don't know the roles of vulture in their daily life and wellbeing.

#### **4. Conclusion and Recommendation:**

This project identified only the Hooded Vulture (*Necrosyrtes monachus*) within Kigali city. On the basis of counts at feeding sites, a population of 22 individuals of Hooded vultures was estimated at Mwendo landfill. And 30 individuals of Hooded Vultures were estimated in survey done in September 2017 at Yanze site and none recorded in March 2018 may be due to lack of food at this site. No vultures were observed at Kicukiro, Nyabugogo, Nduba and Kabuga Landfills.

Tall Eucalyptus and Grevellia species were preferred to other trees in the area surveyed for roosting, since vultures were often found and counted on these trees. The trees' height ranged from 10 m to 15 m.

Felling of roost trees and food availability were identified as the major threat to Hooded Vultures within the city.

It is recommended that similar study should be conducted on a nationwide scale to provide a broader picture of Vulture's population status and threats. And additional studies should be conducted to track the movements of Hooded Vultures as well as some detailed ecological studies on other factors that influence roost site selection, breeding ecology and local migration of the species.

These studies would provide baseline information to strengthen advocacy for the conservation of habitats for vultures species in the city and the nation as a whole. This will lead to the development of a comprehensive action plan for the conservation of identified vultures in Rwanda.

#### **5. Planned activities in the April and May 2018.**

- Training and awareness creation for University of Rwanda (UR) students and local veterinarians
- To produce a map of surveyed sites
- Production of Documentary Video on vulture species in Rwanda and use media platforms for public awareness campaigns.
  
- Present the findings of this study to conservationists in collaboration with Rwanda Development Board (RDB) through a conservation forum.



## 6. References:

Thiollay, J. M. (2006a). The decline of raptors in West Africa: long-term assessment  
And the role of protected areas.

Rondeau, G. and Thiollay, J.M. (2004) West African vulture decline. *Vulture News* 51: 13-33

City, Kigali. 2016. "About Kigali City."

Tende, Talatu. 2007. "final report vultures of yankari game reserve , bauchi , northern nigeria By  
Tende Talatu Savanna Conservation Nigeria." *Savanna Conservation, Nigeria*: 1–7.

## 7. Annex:

### Some field photos.



*Hooded Vultures at Yanze landfill.(ACNR).*



*Research Team at Yanze site .(ACNR).*



*Hooded Vultures at Mwendo landfill, Kigali sector, Nyarugenge(ACNR)*



*Photo of Nduba Landfill.(Photo by ACNR).*