



# CBNRM Governance Manuals

## Managing Wildlife Resources



# Zambia Community-Based Natural Resources Management (CBNRM) Governance Manuals

*Protecting and Managing Natural  
Resources*

2023

Cover photo: Mike Gower (top); North Luangwa CRB elections, ILRG (bottom), verbal consent gained.

# ACKNOWLEDGEMENTS

This manual was developed with support from the United States Agency for International Development (USAID), the Zambian Department of National Parks and Wildlife (DNPW), and the Zambia Community Resources Board Association (ZCRBA) for the Government of the Republic of Zambia (GRZ).

These materials were developed based on direct and indirect discussions with several local partners, including Conservation Lower Zambezi (CLZ), Conservation South Luangwa (CSL), World Wild Funds for Nature (WWF), The Nature Conservancy (TNC), Frankfurt Zoological Society (FZS), Kasanka Trust Limited (KTL), Bio Carbon Partners (BCP), and Community Market for Conservation (COMACO).

These manuals were piloted in six Community Resources Boards (CRBs): Shezongo CRB, Musungwa CRB, Kabulwebulwe CRB, Malama CRB, Nsefu CRB, and Kakumbi CRB.

Contract: Integrated Land and Resource Governance Task Order, under the Strengthening Tenure and Resource Rights II (STARR II) IDIQ.

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This publication is made possible by the support of the American People through the United States Agency for International Development (USAID).

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# ACRONYMS

CBNRM	Community-based Natural Resource Management
CRB	Community Resources Board
CS	Community Scout
DNPW	Department of National Parks and Wildlife
GMA	Game Management Area
GMP	General Management Plan
NRC	Natural Resources Committee
USAID	United States Agency for International Development
VAG	Village Action Group
WPO	Wildlife Police Officer

# I.0 INTRODUCTION

The Wildlife Act (14 of 2015) indicates that Community Resources Boards (CRBs) are co-responsible for management of natural resources in Game Management Areas (GMAs). One of the important aspects of this responsibility is the community management of wildlife and other natural resources. This management includes the monitoring of animal numbers, protecting wildlife from illegal activities, managing the co-existence of wildlife and human beings and making sure that the wildlife resources are used in the correct way.

The Board carries out the day to day running and administration of the CRB and is responsible for implementing the decisions on behalf of communities of the Chiefdom. The Board has sub-committees, one of which is the Natural Resources Committee (NRC) which is responsible for activities required to manage and protect wildlife resources. This sub-committee has to work closely with the Department of National Parks and Wildlife (DNPW) officers in charge of the GMA.

While the NRC members cannot be expected to carry out the management activities themselves, they are responsible for making sure that the activities take place and are reported to the Board and the DNPW. The NRC of the CRB supervises the employment of community scouts (CSs) who work in the GMA under the supervision of a Wildlife Police Officer (WPO) in carrying out patrols for the monitoring and protection of wildlife. The success of these activities can be measured by the wildlife numbers in the GMA and the extent of the benefits they generate.

**Sustainable use** of a resource means that the harvesting and use of a resource is done in such a way that resource use can take place every year and the populations are still able to maintain themselves.

The Wildlife Act (Act 14 of 2015) also makes provision for the use of wildlife resources through hunting to generate benefits for the communities of the GMA. This harvesting of animals must be done in such a way that their numbers allow for harvesting to take place each year and to continue providing benefits. This is called sustainable use.

## 2.0 MANAGEMENT OF WILDLIFE RESOURCES

The management of wildlife resources comprises several components and these include counting the wildlife resources and deciding whether to set a harvest quota over a period. These decisions are DNPW led and achieved in coordination with the communities in the GMA. The sections below provide guidance on some of the management actions involved in wildlife management.

### 2.1 MONITORING WILDLIFE NUMBERS

If you want to manage wildlife resources, you need to know how many animals are in the area. Counting animals can be done in many different ways. Some methods give more accurate results but these are usually expensive and need lots of resources to be carried out successfully. There are simpler and cheaper methods that can be used to show the trends in wildlife numbers (rather than an accurate measure).

**Monitoring** is a term used to describe repeatedly recording information which is used to help to make good management decisions.

Monitoring methods vary depending on species. For instance, it is not possible to use the same method to count lechwe and leopard.

Monitoring methods also vary depending on the terrain and the vegetation. Counting animals is done in a different way in wooded mountains to how it is done on open, flat grassy plains.

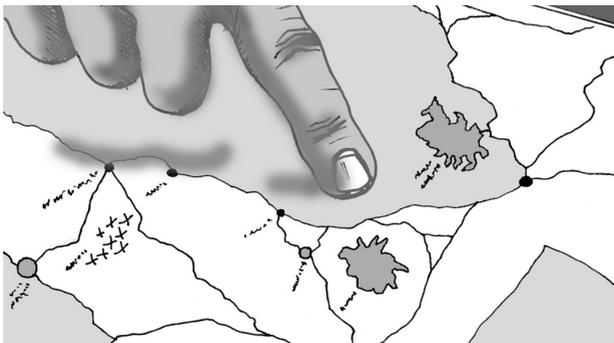


When monitoring wildlife, there are options of doing:

- A full count – where all the animals in the entire area are counted; or
- A sample count – where only selected areas are counted.

Full counts are often done in smaller areas – where the animals are counted from a plane or a helicopter, from the back of a vehicle or on foot.

Sample counts can be done by selecting a part of the area that is searched and all the animals counted using a plane, a vehicle, on foot or using a boat.



Monitoring can also be done by observing the tracks of animals along a set route. To be able to compare wildlife numbers, the same method needs to be used repeatedly. The DNPW Wildlife Ecologist can design transects which can be walked by community members to monitor wildlife populations in the GMA as part of the community wildlife monitoring activities.



<b>OBJECTIVES OF MONITORING</b>	<b>REASONS WHY INFORMATION IS NEEDED</b>
<b>1. How many?</b>	<ul style="list-style-type: none"> <li>• For making management decisions</li> <li>• For setting hunting quotas</li> <li>• For managing human-wildlife co-existence</li> <li>• To determine the value of wildlife in the GMA</li> </ul>
<b>2. Where are they?</b>	<ul style="list-style-type: none"> <li>• For land-use planning (zonation), it is important to identify areas of high game concentrations</li> <li>• For managing human-wildlife co-existence</li> <li>• To inform hunting activities</li> </ul>
<b>3. Are wildlife numbers increasing or decreasing?</b>	<ul style="list-style-type: none"> <li>• With successive counts, graphs can be drawn showing population changes of each species (e.g. are impala increasing or decreasing?)</li> <li>• This will tell the CRB whether or not they are achieving the goals set in the General Management Plan (GMP) and whether it is necessary to change management strategies</li> </ul> <p>Inform wildlife management decisions</p>



## 2.2 QUOTAS FOR SUSTAINABLE USE

Setting a quota contributes to the sustainable use of wildlife resources by hunting. A quota provides the following information about the offtake of animals:

- The species of wildlife;
- The number of that species;
- Whether it is male or female animals;
- The age categories;
- The time period in which the hunting can take place; and
- The area in which the hunting can take place.

For example, a quota will say: five old buffalo bulls can be hunted between June and September of 2022 in the hunting zone of the Tembwe Chiefdom.

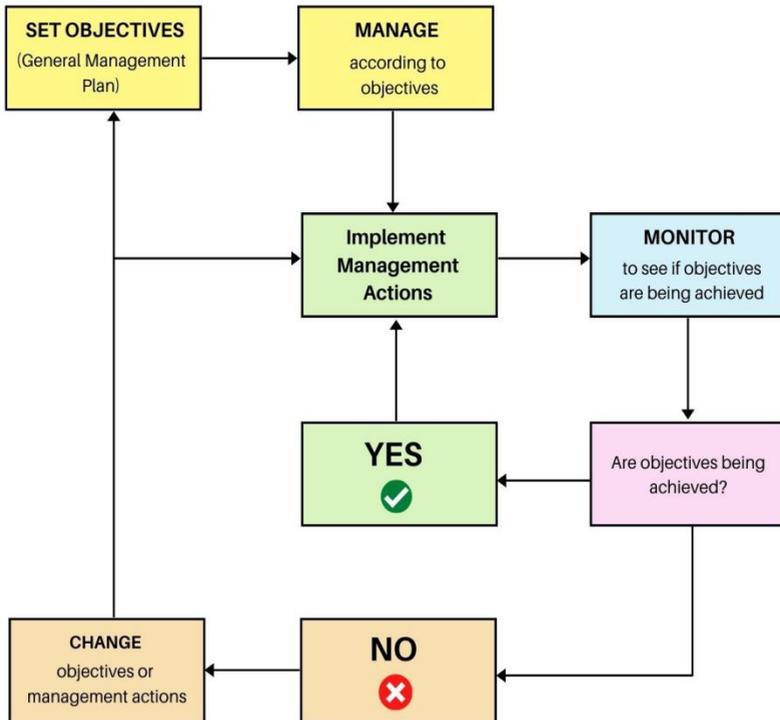
A **quota** is the number of animals of a species that can sustainably be removed or harvested from that population each year without biologically damaging the population.

## 2.3 MANAGING OFFTAKE

Wildlife resources are managed according to adaptive management principles. This involves monitoring the wildlife populations on a regular basis, setting quotas and harvesting according to the quotas and then checking to see how these management actions are impacting the population numbers of the different species. The review process can take place every year or every second year and changes should be implemented and monitored.

**Adaptive management** is the process whereby the impacts of management actions are monitored and the actions changed in order to better achieve the set objectives.

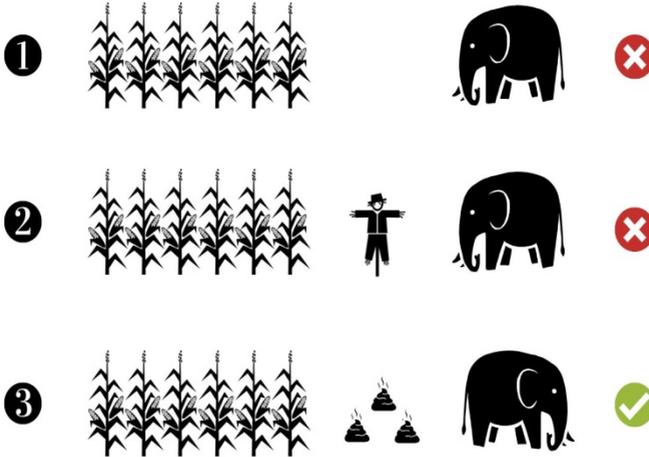
The process of adaptive management is shown in the diagram that follows.



If the objective of the GMP where the CRB falls is to maintain wildlife numbers at their current levels and the monitoring indicates that the numbers have increased significantly, then the quota can be increased. If the objective of the GMP is to increase wildlife numbers and monitoring data shows that this has not happened, then the quotas should be decreased.

Here is another example of adaptive management. People in a village complain about a bull elephant damaging their maize field. In order to test methods that contribute to human-wildlife co-existence, the Village Action Group (VAG) decides to put up scarecrows to see if this will stop the elephant. This is done and the field is monitored.

The elephant continues to come and eat the maize. Because this is not working, a different method is tested until one is found that stops the elephant damaging the field.



## 2.4 WILDLIFE PROTECTION

Wildlife resources generate benefits for the communities in the GMAs. These benefits include the creation of jobs (in tourism facilities and safari camps) as well as income to the CRB. If wildlife numbers decrease because of illegal activities such as poaching or the illegal use of other natural resources, then the benefits will also decrease or disappear. It is the responsibilities of the CSs and WPOs to protect the wildlife resources.

**Poaching** is the illegal use of wildlife involving the hunting or stealing of animal products without the required permission from the owners.

Poaching is sometimes done by local people who illegally hunt wildlife to use the meat to feed their family. This is referred to as subsistence poaching. Other poachers may come into an area and kill an animal

to sell the meat or to sell the products such as lion bones, leopard skins, ivory or rhino horn.



## 3.0 QUOTA SETTING

There are four types of hunting allowed in Zambia:

- Hunting by Zambians who are boafide in the GMA or open area;
- Hunting by Zambians who are resident in the GMA or open area; or
- Hunting by safari clients through hunting concession agreements (non-resident hunting), and
- Special quota for special purposes such as national events, research, translocation, etc.

There are different rules that apply to the different types of hunting and the procedures for obtaining licences and permits are also different. One thing that is the same for each type of hunting, is that the number of animals that can be hunted is determined by the quota allocated. Definitions for the different components of a hunting operation are given in the table below.

<b>COMPONENT</b>	<b>DEFINITION</b>
Hunting concession agreement	An agreement between DNPW, the CRB and a hunting outfitter which allocates the hunting rights to the outfitter for a period.
Hunting outfitter	A Zambian registered hunting company who is responsible for bringing hunters into the area.
Client or hunter	A person (usually from another country) who pays for the right to hunt an animal.
Professional hunter	A qualified guide in safari hunting who is in charge of the hunt and the safety of the client.
Apprentice Professional Hunter	A learner hunter operating under the guidance of a Professional hunter
Monitoring Officer	A WPO or CS who monitors that hunting is done according to the regulations.

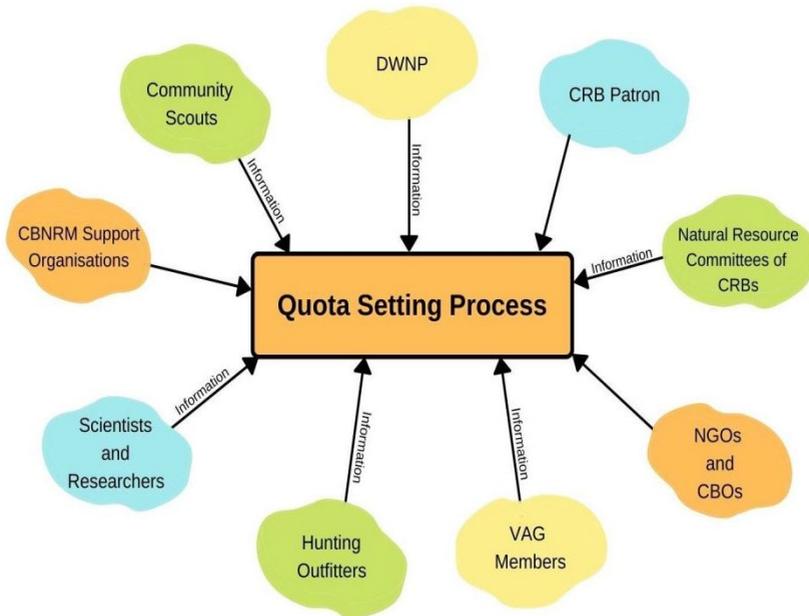
<b>COMPONENT</b>	<b>DEFINITION</b>
Trackers	Individuals who know the area well and who assist with locating and tracking trophy animals.
Skinner	Trained skinner for hunted trophy animals
Community Liaison Officer	Officer employed by the Hunting Outfitter to facilitate community coordination activities

### **3.1 HOW ARE QUOTAS CALCULATED?**

There are accepted methods for calculating quotas. To calculate a quota, following information is needed:

- The number of animals of one species (the population);
- The growth rate of the population (which helps you to work out the offtake rate); and
- The offtake rate (which should always be lower than the growth rate).

This information for this process can be contributed by various stakeholders.



**Quota setting** is the process whereby quotas are calculated with inputs from a variety of stakeholders.

The quota is calculated as follows:

$$\text{Population} \times \text{offtake rate} = \text{quota}$$

For example:

$$100 \text{ buffalo} \times 7\% = 7 \text{ buffalo}$$

$$200 \text{ buffalo} \times 7\% = 14 \text{ buffalo}$$

$$598 \text{ buffalo} \times 7\% = 42 \text{ buffalo}$$

The quotas calculated will also consider what age and sex of animals can be harvested from a GMA.

### 3.2 HOW ARE QUOTAS ALLOCATED?

The total quota calculated for a GMA will be allocated to the different types of hunting. Certain species can be allocated to some and not all the license types. If the hippo quota for a GMA is calculated at 9 hippos and allocated only to safari, resident and non-resident hunting, then these could be allocated as follows:

12 Hippos	Bonafide Hunting =3
	Non Resident Hunting =5
	Resident Hunting =2
	Special Quota =2

# 4.0 MONITORING AND REPORTING ON WILDLIFE UTILIZATION

An important responsibility that is linked to the granting of a quota in a GMA and open areas is reporting of how much of the quota was used and how it was used. To be able to do this, the hunting activities have to be monitored and information recorded in the required way.

## 4.1 MONITORING OF HUNTING

Generally, CSs are deployed to escort and monitor the hunting activities in the GMAs and open areas. There are several aspects of a hunting operation that need to be monitored.

- The number of animals harvested compared to the quota allocated;
- The name of the person who hunted the animal, the date, location and time;
- The number of days it took the hunter to find and kill the desired trophy animal;
- Information about the animal – the species, sex, size, age;
- The quality of the trophy;
- Whether the safari outfitter and the client had all the necessary documents – permits, licences, receipts etc.;
- Human disturbances in the hunting area e.g., snaring, poaching, fishing or other hunters; and
- Information about any animals that were wounded.

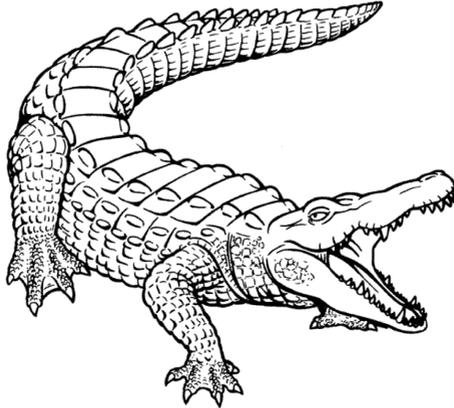
## 4.2 REPORTING ON HUNTING ACTIVITIES

For the members of the community to appreciate benefits of hunting in the area, the CRB will need to report to their members on how the hunting was conducted in the Hunting Block and how many animals were hunted.

The CRB will be required to reconcile their records with DNPW records to ensure they do not hold conflicting records. The CRB can use the published animal fees to calculate the value of hunted animals and estimate the community revenue share in the hunting year.

These reports should be presented to the community during the quarterly and general meetings in the VAGs and should:

- Indicate how much of the allocated quota was used;
- State how each animal in the quota was used – trophy hunting, own-use hunting (for meat), live sale, shoot and sell etc. and also other resources utilized; and
- State the amount of income generated from the quota and other natural resources.



## 5.0 COUNTERING POACHING AND ILLEGAL USE OF RESOURCES

Wildlife protection is not only about arresting and prosecuting poachers but rather working towards preventing poaching happening. This can be done by law enforcement officers working closely with communities and conservation partners who live with wildlife. Sharing information and sensitizing communities on wildlife management issues is an important strategy for wildlife protection.



The WPOs and CSs will undertake patrols throughout the GMA and open areas to ensure that illegal activities are not taking place. The route and timing of these patrols will vary. However, a very important aspect of countering illegal use of resources is gathering intelligence. Intelligence may provide information about an illegal activity that is planned but has not yet taken place or it can be about an event that has already happened. Community members in the GMA can support the protection of wildlife and other natural resources by gathering information and intelligence and reporting any

suspicious or illegal activities to the CRB member, a CS or WPO as quickly as possible.

**Intelligence** is a collection of information gathered in a structured and systematic way that can be shared in order to prevent or reduce illegal activities.

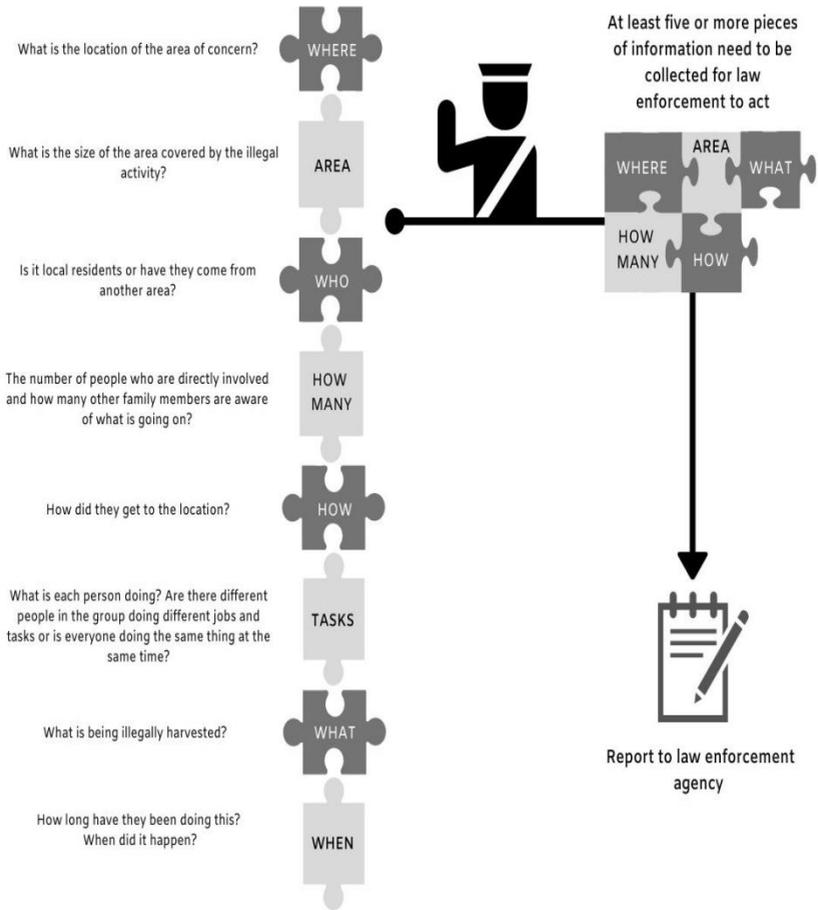
Intelligence is a collection of different types of information so that together it becomes more useful. Intelligence is information which is actively sought after and reported in a structured manner, in this case, to apprehend people who are illegally using resources in the GMA.

Intelligence gathering may take place during a patrol of the area by CSs or by the VAG membership during their daily activities. The list below gives the different pieces of information that if all are gathered and reported will provide intelligence that will help the law enforcement officials either prevent an illegal activity from happening or help them to catch the poachers.

- **Where** – what is the location of the illegal activity?
- **Area** – the size of the area where the illegal activity is taking place?
- **Who** – local residents or have they come from outside the area?
- **How many** – the number of people who are directly involved and how many other family members are aware of what is going to happen/has happened?
- **How did they get to the location** – did they walk, ride a bicycle, drive a car, use a boat or flew in?

- **What is each person doing** – are different people in the group doing different jobs and tasks or is everyone doing the same thing at the same time?
- **What is being poached** – wildlife, timber, fish, grazing or land?
- **What is being used** – are they armed with military weapons, spot hunting rifles, home-made guns, poisons, wire snares, other traps?
- **When** – how long have they been doing this or when did it happen?

If only one or two of the above pieces of information are provided, it may be difficult for the law enforcement officers to follow up on this information. However, if at least five of these pieces of information are collected and shared, this information becomes intelligence and can be useful to stop illegal activities.





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