

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/301701790>

INTRODUCTION AND TERMS IN WILDLIFE MANAGEMENT

Chapter · October 2009

CITATIONS

0

READS

2,054

1 author:



[Christopher Onyemaechi Ezike](#)

Enugu State University of Science and Technology

29 PUBLICATIONS 9 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Humpback Whale Population in Coastal Areas of Nigeria [View project](#)

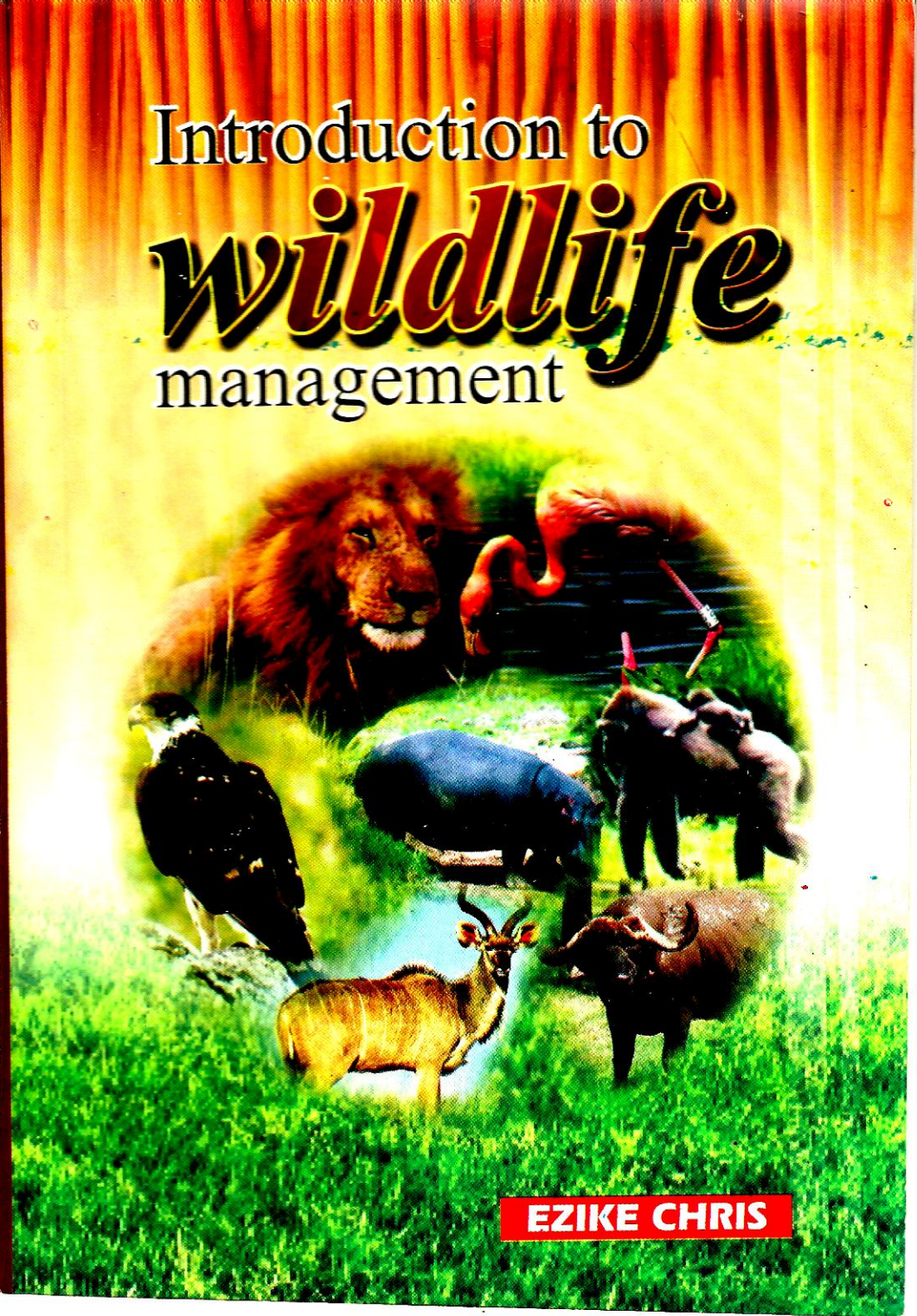


Phytoremediation of polycyclic aromatic hydrocarbon (PAH) of Diesel oil- water soluble fraction to *Clarias gariepinus* (Burchell, 1822) [View project](#)

Introduction to
wildlife
management

INTRODUCTION TO WILDLIFE MANAGEMENT

EZIKE CHRIS



EZIKE CHRIS

INTRODUCTION TO WILD LIFE MANAGEMENT
Copyright © 2009 by
Ezike Christopher Onyemacchi

ISBN:978-052-762-26

All rights reserved. No portion of this book may be reproduced in any form without written permission of the copyright owner

Published by
PRINCE DIGITAL PRESS
1 Nkpor Street Abakpa Enugu, Enugu state.
08037785907, 08059117646
Annecharly@yahoo.com

PREFACE TO FIRST EDITION

Too many people world over are unfamiliar with wildlife and its management strategies. Occasional zoo visit and exposure to brief Tele- documentary report on wildlife is commendable but fall below acceptable standard.

In this introductory approach, a general conceptional outlook is adopted for simplicity of important terminology and overview report. This eight chaptered edition is designed for students in Senior Colleges and undergraduates in tertiary schools especially those majoring in Agriculture and life sciences. It is a must for all persons interested in nature and Environment.

The pictorial view of some endangered species is to give identity and important information to the reader. Information on our national park, biome structure and management strategies are presented in a familiar pattern. Some conservation procedures as well as important environmental regulations are included for reference purpose.

It is hoped that this book will build up love and protection for those species nature has placed in the wild as well as prove useful to teachers and students alike. The author will welcome criticisms and suggestions.

TABLE OF CONTENTS

Dedication	iii
Acknowledgments	iv
Preface	v
Chapter One	
1.0 Introduction to Wildlife Management	7
1.1 Terms used in Wildlife Studies	7
1.2 Identification of Wild animals	11
Chapter Two	
2.0 Wild animals associated with specific biome types in Nigeria	14
2.1 Tropical Rainforest	15
2.2 Savanna Biome	16
2.3 Sahel Savanna	17
2.4 Afrotropical Highland	18
2.5 Wetland habitat	19
Chapter Three	
3.0 Strategies for Wildlife Conservation	20
3.1 Wildlife Conservation in Africa	21
3.2 Natural Parks in Nigeria	22
3.3 Importance of Conservation	26
Chapter Four	
4.0 Wildlife Species of particular interest in Nigeria	29
4.1 African Elephant	30
4.2 Lion	31
4.3 Leopard	32
4.4 Chimpanzee	32
4.5 African Buffalo	34
4.6 Gorilla	35
4.7 Hippopotamus	36
4.8 Waterbuck	37
4.9 Roan Antelope	37
4.10 Pigmy Hippopotamus	39
4.11 Bohor reedbuck	39
4.12 Western Hartebeest	40
4.13 Yellow Backed Duiker	41

4.14	Secretary Bird	41
4.15	Ostrich	42
4.16	African Grey Parrot	43
4.17	White Throated Monkey	43
4.18	Values of wildlife	48

Chapter Five

5.0	Management Strategies of Wildlife	50
5.1	The Primary Division of Management	50
5.2	Secondary Division of Management	52
5.3	Some Management Problems of National Parks	53

Chapter Six

6.0	Vegetation and habitat Management for Wildlife Conservation	58
6.1	The role of fire	59
6.2	The role of salt lick in Wildlife Management	63
6.3	The role of water regime	65
6.4	Factors threatening Wildlife	65

Chapter Seven

7.0	The role of Ecology on Global Wildlife Conservation	68
7.1	Conservation of Species	69
7.2	Conservation of Ecosystems	80
7.3	Conservation of the Biosphere	86

Chapter Eight

8.0	Some Environmental Regulations in Nigeria	92
-----	---	----

Chapter One

1.0 INTRODUCTION TO WILDLIFE MANAGEMENT

Wildlife refers exclusively to animals that are not domesticated but inhabit their natural form of environment. Such animals are not easily tamed but prefer to live in their natural habitats where they may co-inhabit with one another and with other species and with abiotic component of the ecosystem.

With respect to plants, it applies to species of plants that are not cultivated in farms, plantations or gardens but grow on their own in their natural habitats. The management of wildlife concerns the manipulation or skillful handling of wildlife resources. Examples of wild animals include: lion, elephant, python, gorilla, chimpanzee, monkey, duiker, antelope, eagle, kob etc.

Examples of plant form of wildlife include many timber tree of the rainforest and savanna: iroko, mahogany, obeche, opepe, iron wood, etc.

1.1 Terms used in Wildlife studies

Wild: This describes animal or plants that are not

Introduction to Wildlife Management

domesticated or cultivated but live or grow in their natural environment.

Wildlife: This refers to collection of undomesticated animals and their environments.

Game: This refers to wild animals, birds and fishes that are hunted for food, sports and for their commercial value.

Categories of threats

Vulnerable: Exposed stable population of a specie to certain factors that could decline its recruitment

Threatened Species: This refers to plant and animal species that are adversely affected by human activity and natural hazards or by accidents in such extent that continued existence is not favourably guaranteed, except corrective measures are put in place to check them. In many instances, these threatened groups are overcome by stress and die leaving out the best fitted amongst them. Threatened members are not endangered, except if threatening condition continue unabated.

Endangered Species: These are species whose number have become so few that they could become extinct in the future. Examples: African elephant, leopards and sea cow or manatee.

INTRODUCTION TO WILDLIFE MANAGEMENT

Extinct Species: These are species that have no living representative anywhere on earth because they had all died out due to several hazardous conditions they could not adapt to. Examples: Asian elephants, dinosaurs, European wales and Australian Dodo.

Endemic Species: This refers to certain animals or plants that are found only in a particular locality or country and never in any other part of the world.

Examples of Endemic species in Nigeria.

1. White throated monkey *Cercopithecus erythrogaster*
2. Ibadan Malimbe *Malimbys Ibadenensis* Ife
3. Anambra Waxbill *Estrilda Poliopareia* - Enugu, Anambra
4. Jos Plateau indigobird *Vidua maryae* Jos

Reserve: Protected resource e.g. game, forest or oil that is left unused till future time.

Natural Resources: Materials or provisions from nature in a given area or country e.g. oil, wildlife, water, land etc which may be renewable or un-renewable.

Renewable Resource: These are natural resources that

Introduction to Wildlife Management

are replenished by nature overtime e.g. air, water, soil, wildlife and forests.

Non-Renewable Resources: Are those natural resources that cannot be replenished by nature or man after use e.g. fossil fuels and minerals. prevailing habitat (i.e. place where an organism lives) is destroyed mostly due to human activities and occasionally by natural hazards or accidents

Conservation: This is the preservation of natural resources from waste, harm or loss by wise usage in a way that gives man best advantage

Zoological Garden/Zoo: Relatively small place where living wild animals are kept for the public to see and where they can be studied and breed.

Sanctuary: An area where birds and wild animals are protected and encouraged to breed e.g. Okomu wildlife sanctuary in Edo State

National Park: A large area of land within a country whose natural beauty is preserved and set aside for the protection and conservation of wildlife and their habitats. National park has been defined by the international union for the conservation of nature and natural resources as an area relatively large sized and containing natural ecosystems of special interest, which

INTRODUCTION TO WILDLIFE MANAGEMENT

are not materially altered by human exploitation or occupation, protected and managed by the highest competent authority of the country and open to visitors under special condition for inspiration, educational, cultural and recreational purposes e.g. Kainji Lake National Park in Niger/Kwara State

Game Reserve: This is an area of land where wild animals are protected and managed for recreation and educational purposes. Animals within a game reserve are allowed to roam in their natural habitat without disturbance by man e.g. the Kamuku Game Reserve in Kaduna State.

1.2 Identification of wild animals

To identify wild animals in their natural habitats especially in game reserves and national parks is not an easy task except one is under a guide. The following measures may help a visitor identify them.

Size of the animal e.g. small or large body

Shape of the animal: large/little

Colour of the animal: specific part of the body colour e.g. yellowish beak of cattle egret.

Movement of the animal such as. fly, glide, swim, walk, jump etc.

Introduction to Wildlife Management

Field Mark: The most outstanding feature of the animal that catches the eye or other senses such as voice, odour.

Habitat or Niche: Specific area the animal lives in a habitat describes its niche while the habitat as earlier defined is the place where an organism normally lives.

Time the animal is usually seen: This refers to period within the day/night or season the animal is seen. Migratory birds and fishes may move from one country into another to search out favourable condition or breeding grounds e.g. Abdim's stork.

Foot Prints: They are mark representation of their foot on ground e.g. Elephants

Food Residue: The food left over by the animal e.g. bones of kill made by lions, crushed bones left by kill made by hyena.

Faeces: Faeces made by the animal may also help to identify or find its present location in the Reserve or Park

Trail or Runway: Runway is the specific small path followed by certain animals e.g. grasscutter and rats. Trail are large passages created by bigger animals such as buffalo, hipo, elephant etc.

Remains of the animals or its body part. Some animals

INTRODUCTION TO WILDLIFE MANAGEMENT

are very difficult to see as such their dead body; feather or nest may indicate their existence, without necessarily seeing them.

Habitat or Niche: Specific area the animal lives in a habitat describes its niche while the habitat as a whole is the place where an organism normally lives.

Time the animal is usually seen: This refers to period within the daylight or season the animal is seen. Migratory birds and fishes may move from one country into another to search out favourable conditions or breeding grounds e.g. Adamastor.

Foot Prints: They are mark representation of their foot on ground e.g. Hicobara.

Food Residue: The food left over by the animal e.g. bones of kill made by lions, crushed bones left by kill made by hyena.

Tracks: Tracks made by the animal may also help to identify or find the present location in the Reserve or Park.

Trail or Runway: Runway is the specific small path followed by certain animals e.g. gnu/scout and rats. Trail are large passages created by bigger animals such as buffalo, hippo, elephant etc.

Remains of the animal or its body part: Some animals

Chapter Two

2.0 WILD ANIMALS ASSOCIATED WITH SPECIFIC BIOME TYPES IN NIGERIA

A biome is a large area of earth's surface characterized with flora and fauna. It is often identified by its vegetation type since plants form the bulk of the community in any ecosystem. In most cases, the vegetation types in a biome is largely determined by rainfall and temperature ranges.

Nigeria has four major biome types:

1. **Tropical rain forest** (Edo, Imo, Abia, Lagos, Ogun, Bayelsa, Ekiti)
2. **Savanna or sudan savanna** (Enugu, Anambra, Imo, Abia, Kogi, Benue, Kwara, Oyo, Ebonyi, Ogun, Ekiti, Osun, Taraba)
3. **Sahel savanna** (Bornu, Katsina, Sokoto, Yobe, Kebbi, Kano, Jigawa, Zamfara)
4. **Afro Alpine / Tropical highland** (Cross River, Adamawa, Plateau)

INTRODUCTION TO WILDLIFE MANAGEMENT

2.1. Tropical Rainforest:

Characteristics:

- Rainfall falls between 1250- 2000mm (high)
- Relative humidity is high up to 70%
- Rain season is long (8- 10 months) but dry season is short (3- 4 months)
- Forest is dominated by trees and shrub which do not permit growth of grasses and herbs
- Tree structures are in layers
- Majority of plant community are straight, thin stemmed, deciduous unbranched, small flowers and broad leaved. Examples of trees are: Iroko *Chlorophora exelsa*; mahogany *Kyaya seneganiensis*; Opepe *Saroccephalus sp*; Iron Wood *Lophira procera*

Wildlife Species:

- African forest elephant *Loxodonta africana*
- Monkeys
- Squirrels
- Lizards, frogs, insects, millipedes, snails and birds especially the giant blue plantain eater, green turaco etc.

Wild Animals Associated with Specific Biome types in Nigeria

2.2 Savanna Biome:

The savanna biome is subdivided into sudan or southern savanna and guinea or northern savanna.

(i) The sudan or southern savanna is characterized by the following features:

- Annual rainfall is moderate (500- 1250mm)

- Scattered trees and shrub community

- Grasses are predominant vegetation with tall grasses up to 3m high

- Fire usually occur during dry season

- Trees possess thick bark that is fire resistant

- Tree/grasses usually produce new sucker growth after each fire

- There is marked differences between day and night temperature ranges with higher temperature during the day and lower ranges during the night.

Plant community include tree species such as the shea butter tree *Butyrosperman sp*; Locust bean *Parkia sp*; Grasses such as *Andropogon sp*,

INTRODUCTION TO WILDLIFE MANAGEMENT

Pennisetum sp. etc

Wildlife species: are mostly animals that can conserve water Guinea fowls; Deer; rats, grass cutters, snakes, termites, leopards, lions, hyenas, giraffes, roan antelope, hart beeste, birds such as red throated bee eater and Senegal bustard

(ii) The Guinea savanna is characterized by:

- Moderate to low rainfall
- Grasses are dominant population
- Shorter trees often very thorny shoot so as to reduce transpiration rate.
- General environment is dry and with high temperature ranges.
- Plant community is essentially grasses and few short trees e.g. acasia and animals few in number e.g. grass cutter, rats, insects and termites.

2.3. Sahel Savanna

Characteristics

- Very low rainfall

Few plants with deep root, waxy protective coating and tolerant to low water retention

Wild Animals Associated with Specific Biome types in Nigeria

The environment is very dry, open with thorny trees.
Grasses are short and sparse

Plants: Acasia, gum Arabic, date palm and grasses

Animal: Termites, lions, giraffes, dama gazelle, and *seemitter onyx*.

Typical birds species include: - y e l l o w breasted barbet

Red billed quellea *Quella quela* a migratory bird that is a pest to agricultural lands

Sudan golden sparrow pest.

2.4 Afrotropical Highland: They occur in mountains and highlands. e.g. Obudu mountains

- Ecological factors are rainfall and attitude
- Vegetation changes with hight
- Peak of mountain consists of grasses and sedges

Wildlife: In Nigeria, there are no mannal restricted to this mountain but a few birds are:

- Cameroon mountain robin chart *Cossypya Isabellae*
- Bannermans weaver bird *Ploceus bannamani* which is considered globally threatened.

INTRODUCTION TO WILDLIFE MANAGEMENT

2.5 Wetland Habitats: These are areas that are usually wet with some part permanently water logged e.g. swamps, marshes, riparian forests etc.

Two species of hippopotamus occur in the wetland of Nigeria e.g. *Hippopotamus amphibius* and *Hippopotamus pigmy*.

Chapter Three

3.0 STRATEGIES FOR WILDLIFE CONSERVATION

A tripartite approach could be used for the conservation of wildlife: ex-situ protections; insitu-protections and rational planting and management.

- **Ex-situ protection** is the maintenance of wildlife outside their natural habitats such as zoos, botanical gardens, farms and plantations.
- **In-situ protection:** Protection and maintenance of wildlife in National parks, natural reserves and sanctuaries where they and their habitats are protected as well.
- **Rational planting and management** is often carried out by animal lovers who acquire young of wildlife and nurture them to adult. Examples: spotted hyenas, grey monkeys, parrots, snakes etc. In some countries well trained government personnel are equipped

INTRODUCTION TO WILDLIFE MANAGEMENT

with modern equipment for capturing and domestication of wildlife in paddocks, animal houses and cages. Careful life history of desired animal is undertaken in order to carry out such task e.g. domestication of the arctic seal, whales, shark etc.

- All herons and egrets and even cattle egrets are indicators of wetland/aquatic habitat.

3.1 Wildlife Conservation in Africa

As earlier explained, conservation is concerned with the protection of wild animal and plants. While game reserves and national parks protect mainly animals, forest reserves takes the role of protecting tree and plant species not farmed or cultivated.

In East Africa, sanctuaries for birds and marine organisms had been established in the early 19th centuries.

But the oldest and best known national park is the Kruger National Park in 1895 by the South African government which protects most savanna species. The Kalahari Gemsbok National Park shared by South Africa and Botswana conserves a tract of arid country mammals with associated types of antelopes.

Majority of the East African and Central

Strategies for Wildlife Conservation

African countries have established large National parks that they have expanded in size to accommodate greater numbers of wildlife and this has resulted to increase economic benefits from tourism.

One of the largest National park in the Eastern Africa is the Tsaro National park located in Kenya with an area of 8000 square miles. Other large ones include: Nakuru National park and Motane National park.

Tanzania has the famous Serengeti National park while Uganda has three National parks.

Animals not protected in parks or reserve are not necessarily threatened especially if they are plentiful in forests and other natural habitats.

3.2 National Parks in Nigeria

The gazetted names of Nigerian national parks includes the followings:

Chad Basin National Park (CBNP):

This park is located in Bornu and Yobe states with various sectors:

- a) **Wetland Sector:** This is located in Yobe State and comprises of Dagona water fall sanctuary and the Zurgum Baderi forest.
- b) **The Oasis Sector:** Located in Bornu

INTRODUCTION TO WILDLIFE MANAGEMENT

State which inhabits a very wet spot in the middle of a desert. The Chad basin is famous for Ostriches and Palearctic birds (migratory birds) e.g. white stork *Syconia syconia*, which migrate during winter from Europe.

2. Cross River National Park (CRNP):

This park is located in Cross River State and comprises of two important sectors: The Okwango and Orban sectors which consists of lowland rain forests, montane forests small savanna habitats. The CRNP is famous for 2 endangered mammals: drill and gorilla and 2 endangered birds: red headed rock fowl and Gibbirts Babber bird.

3) Gashaka Gumpti National Park (GGNP):

This park is located in Taraba and Adamawa States with the following habitats: submontane forests and grasslands; lowland rain forests; guinea savanna woodland and lotic fresh water.

It is famous for endangered chimpanzees and the bannermann's weaver bird which is globally threatened.

Strategies for Wildlife Conservation

4 Kainji Lake National Park (KLNP):

This park is located in Niger and Kwara States. It protects the following habitats: wetland and guinea savanna woodland. It is famous for protecting kobs and the African Hunting dog (which is now thought to be extinct)

5. Old Oyo National Park (OONP):

Located in Oyo State with relict rain forest; riparian forests and guinea savanna woodlands. It is famous for protecting kob and water bucks.

6. Yankari National Park (YNP):

Located in Bauchi State with sudan guinea, savannah woodland and riparian forest. It is famous for protecting: savanna elephants; African buffalo; and water bucks.

Proposed National Parks

Two new proposed National parks are:

- i) **Kamuku game reserve** located in Kaduna state with guinea savanna woodland and a riparian forest. It may become famous for protecting reedbuck and klip springer.

INTRODUCTION TO WILDLIFE MANAGEMENT

- ii) **Okomu wildlife sanctuary** in Edo State with lowland rainforest and a swamp forest. It may become famous for the protection of the endemic white throated monkey and several forest birds especially the globally threatened yellow hornbill. It is noteworthy that Okomu game reserve is now one of the gazetted national parks in Nigeria.

Other examples of Forest and Game Reserves in Nigeria

1. Shasha River
2. Omo Forest
3. Sabeba Reserve
4. Namu River
5. Afri River
6. Sango River
7. Ikare Forest Reserve
8. Zamfara Cattle Ranch
9. Obudu Cattle Ranch
10. Ijero Forest Reserve
11. Olokomeji Forest Reserve
12. Ango Owa Forest Reserve etc

3.3 Importance of Conservation

1. It ensures a wise and planned use of non-renewable natural resource for steady availability.
2. Ensure availability of wildlife from generation to generation for educational and scientific research; source of protein to man; serves as a game reserve as zoological gardens; useful as a tourist attraction which could boost economy.
3. Conservation of forests provide: Timber for furniture and homes; prevention of excessive evaporation of ground waters; reduction of desertification; filtration of noise pollution; serve as medicinal plants; home to forest animals and birds.
4. Conservation of water protects aquatic life and ensure safety for drinking water, domestic use and other uses.
5. Soil conservation promotes the maintenance of soil fertility and prevents its erosion.
6. Air conservation ensures purity of air from air pollutants.

Ways of ensuring conservation

- Establishment of National parks and game

INTRODUCTION TO WILDLIFE MANAGEMENT

- reserves
- Establishment of forest reserves.
- Encouraging people to plant more trees
- Making conservation laws.
- Formation of societies/associations that promote conservation of natural resources.

Some conservation agencies in Nigeria

- (i) Federal Environmental Protection Agency (FEPA)
- (ii) State Governmental Environmental Protection Agencies (SEPA)
- (iii) Nigerian Conservation Foundation (NCF)
- (iv) Forestry Departments of Ministry of Agriculture and Natural Resources.
- (v) Natural Wildlife Conservation Society (NWCS)
- (vi) River Basin Development Authority (RBDA)
- (vii) World Wildlife Fund (WWF)
- (viii) International Whaling Commission (IWC)
- (ix) International Union for the conservation of Nature and Natural Resources (IUCN)

Factors affecting conservation of natural resources

- (i) Illegal killing of animals/poaching in forests and game reserves and indiscriminate felling of trees.
- (ii) Discharge of chemicals and oil sewage into rivers
- (iii) Release of poisonous gases and steam into the environment
- (iv) Dumping of sewage and industrial waste on land/soil and water
- (v) Indiscriminate burning of forest/bushes which may lead to habitat loss.
- (vi) Deforestation and desertification

