

MODULE 7

Unit 1	Concepts of Wildlife and Wildlife Management
Unit 2	Ecotourism
Unit 3	Measures for Improving Nigerian Agriculture.

UNIT 1 CONCEPTS OF WILDLIFE AND WILDLIFE MANAGEMENT

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1.0 INTRODUCTION

The idea of wildlife conservation is as old as man. In the process of making the land to sustain the production of annual crops of wildlife, the needs of wildlife are balanced with the perceived needs of man by considering ecological principles such as carrying capacity of the habitat. Thus, the conservation of natural resources in the wild has grown to include a wide range of concepts such as rational use,

sustained yield, multiple use and restoration. With respect to Nigeria, the main national wildlife objectives are increase in animal protein supplies through bushmeat production, promotion of game-viewing, tourism and foreign exchange earnings, preservation of national heritage, promotion of wildlife conservation for education and research, generation of employment opportunities in rural areas and promotion of ecological diversity.

2.0 OBJECTIVES

At the end of this unit, you should be able to explain;

- the basic principles of the wildlife, its management and conservation;
- the philosophy behind wildlife management;
- the methods of managing wildlife, including their application, advantages and limitations; and
- the merit/demerit of using fire as a wildlife management tool.

3.0 MAIN CONTENT

3.1 Philosophy of Wildlife Management

The process deals with protecting endangered and threatened species and subspecies and their habitats, as well as with non-threatened agricultural pests and game species. Most techniques of wildlife management aim at the preservation and control of habitat. Other methods such as reforestation, predator control techniques such as trapping, re-introduction of species or hunting, may also be used to help manage “desirable” or “undesirable” species. Management involves the maintenance of natural disturbances such as wildfire (e.g. controlled burns to achieve climax community) and grazing by wild animals.

3.2 Basic Concepts of Wildlife

3.2.1 Wild

This term refers to “animals not tamed, plants not cultivated in a garden, and man, uncivilized, unruly, uncontrolled, violent and mad”.

3.2.2 Wildlife

This term refers to all forms of wild animals and their environment. Alternatively, it refers to all non-domesticated plants, animals and other living organisms.

3.2.3 Wildlife Management

This is the active manipulation of wildlife animals and their habitats for the benefit of mankind. Alternatively, it is defined as the process of keeping certain wildlife populations at desirable levels determined by wildlife managers or the art of making land produce sustained annual crops of wildlife.

3.2.4 Wildlife Conservation

This practice involves strategies for the protection and rational utilization of both the wild animals and their habitats.

3.2.5 Wildlife (Wild) Gardening

This concept is aimed at creating an environment that is attractive to various forms of wildlife (aesthetics), such as birds, amphibians, reptiles, insects, mammals, etc. Organic gardeners also use wild gardening as a biocontrol method and for promoting biodiversity to the wider environment.

3.2.6 Wildlife (Wild) Garden

A wildlife garden is made up of a variety of habitats that have either been deliberately created by the gardener or allowed to self-establish by minimizing maintenance and intervention. The habitats include ponds to attract frogs, newts, toads, dragonflies; nesting boxes for birds and solitary bees, hedgehogs or certain insects; log piles to provide shelter for lizards and slow worms; and planting beneficial insect-attracting plants, including wild flower meadows, etc. The wild garden is dominated by a variety of native species under enhanced management, and preferably, some exotics. Also, the natural environment in a typical wild garden is optimal for local water supplies.

3.2.7 Game Reserve

A game reserve is defined as an area set aside for the preservation of wildlife. Specifically, forest reserves are created to ensure the perpetual exploitation of forest products, in response to the renewable but finite forest resources. Such areas are protected from destruction and unguided exploitation by the owner-state or the community. A typical example of game reserves in Nigeria is Borgu Game Reserve, which is aimed at creating a refuge for wild animals.

3.2.8 National Park

A national park is an area of land set aside for the protection and preservation of wild animals and their habitats. It gives protection to the animals, plants, soils, geologic formations, historical monuments, etc. in the designated area. According to the International Union for the Conservation of Nature and Natural resources (IUCN), a national park is “an area of relatively large size containing natural ecosystems of special interest, which 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 conditions of inspiration, educative, cultural and recreational purposes”.

3.2.9 Bushmeat

This is the flesh of wild animals. Bushmeat provides a large proportion of the animal protein consumed by both the rural populace and urban travellers.

3.2.10 Wildlife destruction

This involves all aspects of over-exploitation of the wildlife, which in most cases do not always lead to an extinction of the species under exploitation. The four general sources of wildlife destruction are:

- i. overkill- This occurs when hunting is done at a rate greater than the reproductive capacity (reduced breeding age) of the population being exploited i.e. unsustainable hunting.
- ii. habitat destruction and fragmentation- The loss of preferred area or territory and the decrease in the carrying capacity of the land for the wild species are caused by the processes associated with human habitation. These processes include changes in land use, especially for agriculture, grazing of bushland by farmed animals, changes to natural fire regimes, forest clearing for tuber production and wetland draining for city expansion.
- iii. impact of introduced species- These species include out-of-control invasions and rats, cats, rabbits, dandelions and poison ivy which have become invasive threats to wild species in various parts of the world.
- iv. chains of extinction (Domino effect)- This effect is of secondary importance in respect of wildlife destruction. However, it is by far the most destructive process that can occur in any ecological community due to the associated series of chain reactions imposed by the several complex intertwining links in the living ecosystem around the exploited species.

3.3 Types of wildlife Management

3.3.1 Manipulative Management

This method acts on a population by either changing numbers by direct means or influencing numbers by indirect means of altering food supply, habitat, density of predators or prevalence of disease. It is appropriate when a population is to be harvested, or when it decreases to an unacceptably low density, or increases to an unacceptably high level.

3.3.2 Custodial Management

This is a preventive or protective type of management. It aims at minimizing external influences on the population and its habitat. It is appropriate in a national park where one of the stated goals is to protect ecological processes. It is also appropriate for the conservation of a threatened species where the threat is of external origin, rather than being intrinsic to the system. The two conservation methods are:

i) In-situ (On-Site) Conservation

This is the process of protecting an endangered plant or animal species in its natural habitat, either by protecting or clearing up the habitat itself, or by defending the species from predators. It maintains recovering populations in the surrounding where they have developed their distinctive populations. It is a more common method of wildlife conservation. Its benefits include protection of wildlife habitats and maintaining sufficiently large reserves to enable the target species to exist in large numbers. In Nigeria, common in-situ wildlife management methods are National Parks and Games Reserve (Yankari, Kainji Lake, Obudu Cattle Ranch, Cross River, etc.), Strict Natural Reserves (in both the high rainforest and savanna zones), Forest Reserves (Olokemeji, Gambari, Omo, Ologbo, Obiaruku Forest Reserves) and Game Sanctuary (e.g. Okomu sanctuary, Wase Rock sanctuary, Damper sanctuary).

ii) Ex-situ (Off-site) conservation

This is the process of protecting an endangered species of plant or animal by removing part of the population from a threatened habitat and placing it in a new location, which may be a wild area or within the care of humans. It involves mostly the oldest and best known conservation methods and some more modern laboratory methods. The methods include colony relocation, human-care methods such as zoos, botanical gardens, seedbanks/germplasm and *in vitro* storage. A major disadvantage of this type is that it is rarely sufficient to save a species

from extinction. Thus, it is best as a last resort or supplement to *in-situ* conservation since it cannot recreate the habitat as a whole. Ex-situ methods in Nigeria are Zoological Gardens and Domestication of certain wildlife species such as African giant rat, grass cutter, bush fowl, guinea fowl, Pallas and Kob.

3.4 Fire as a Range Management Tool

Historically, man has used fire both as useful and destructive tool for hunting, war, roasting meat, warming food, etc. In wildlife management, when timely done, the use of fire has been advantageous with respect to

- i. improving the visibility within forests and parks,
- ii. improving the production of annual and permanent grasses,
- iii. averting the danger of burning by poachers,
- iv. creating easy movement within the range and parks,
- v. encouraging tree growth, and
- vi. eliminating undesirable and worn-out grasses thereby stimulating new flushes.

There are two types of burning in range management, namely

3.4.1 Early Burning

This is usually carried out between November and December, mainly to reduce the quantity of perennial grasses (e.g. *Pennisetum purpureum*) which inadvertently helps to increase the quantity of annual grasses such as *Hyperrhenia involucrata*.

3.4.2 Late Burning

This is done between March and April, mainly to reduce the number of trees, shrubs and forbs within a reserve or a park. It helps in the regrowth of more perennial grasses.

4.0 CONCLUSION

In this unit you have learned that

- i. wildlife principles are complex and diverse, and
- ii. effective application of wildlife conservation strategies not only guarantees the protection of endangered and threatened species, their subspecies and their habitats but also non-threatened agricultural pests and game species.

5.0 SUMMARY

Wildlife conservation is critical for the sustenance of the balance between the perceived needs of man with the needs of wildlife, using ecological principles which facilitate the preservation and control of wildlife habitats.

6.0 TUTOR-MARKED ASSIGNMENT

- 1) Differentiate between “wild” and “wildlife”.
- 2) Mention the two basic principles of wildlife conservation.
- 3) Write short notes on “wild gardens”.
- 4) Why are forest reserves created.

7.0 REFERENCES/FURTHER READING

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