

**INTENSIVE TROPICAL  
WILDLIFE [ NON-DOMESTIC ] PRODUCTION  
SYSTEMS**

**MODULE # II: Zoos  
Unit # 4: Wildlife and Zoos**

**By:**

*Gary Wayne - Dr. G - Garcia*  
**Senior Lecturer in Animal Production  
and  
Coordinator The Open Tropical Forage-Animal Production Laboratory  
[OTF-APL]**

Ó  
**Gary Wayne Garcia (2001)**

**GWG Publications Ltd**

**Port of Spain, Trinidad, Trinidad and Tobago, W.I.**

## MODULE II: ZOOS

### Unit 4 : Wildlife and Zoos

<b>MODULE II: ZOOS</b>	<b>2</b>
------------------------	----------

<u>Unit 4 : Wildlife and Zoos</u>	2
-----------------------------------	---

<b>MODULE II: ZOOS</b>	<b>3</b>
------------------------	----------

<b>MODULE II: ZOOS</b>	<b>3</b>
------------------------	----------

<b>UNIT 4.1 WILDLIFE</b>	<b>3</b>
--------------------------	----------

<u>4.1.1 WHAT IS THIS UNIT ABOUT ?</u>	3
--	---

<u>4.1.2 WHAT IS WILDLIFE?</u>	3
--------------------------------	---

<u>4.1.3 WHY STUDY WILDLIFE?</u>	3
----------------------------------	---

<u>4.1.4 WILDLIFE FARMING- WHAT IS WILDLIFE FARMING?</u>	4
--	---

<u>4.1.5 ROLE, FUNCTIONS AND BENEFIT OF WILDLIFE AND WILDLIFE FARMING TO MANKIND.</u>	4
---	---

<u>4.1.6 WILDLIFE MANAGEMENT</u>	4
----------------------------------	---

<u>4.1.7 LAWS GOVERNING WILDLIFE</u>	4
--------------------------------------	---

<u>4.1.8 WILDLIFE ACTIVITIES IN THE CARIBBEAN</u>	5
---	---

<u>4.1.9 RECOMMENDED READINGS</u>	7
-----------------------------------	---

<b>MODULE II: ZOOS</b>	<b>8</b>
------------------------	----------

<b>UNIT 4.2 : WHAT ARE ZOOS?</b>	<b>8</b>
----------------------------------	----------

<u>4.2.1 THE LEARNING OBJECTIVES</u>	8
--------------------------------------	---

<u>4.2.2 WHAT IS A ZOO ?</u>	8
------------------------------	---

<u>4.2.3 HISTORY OF ZOOS:</u>	8
-------------------------------	---

<u>4.2.4 TYPES OF ZOOS:</u>	12
-----------------------------	----

<u>4.2.5 THE ROLE OF ZOOS</u>	13
-------------------------------	----

<u>4.2.6 THE EMPEROR VALLEY ZOO ( RPUBLIC OF TRINIDAD AND TOBAGO):</u>	13
--	----

<u>4.2.7 RECOMMENDED READINGS</u>	15
-----------------------------------	----

## Module II: Zoos

### Unit 4.1 Wildlife

#### 4.1.1 What is this unit about?

This unit is aimed at introducing you to wildlife.

#### 4.1.2 What is Wildlife?

Wildlife may be considered as any animal form which has not been commercially domesticated and exist in nature as uncontrolled breeding populations. These animals range from butterflies to invertebrates to any of the thousands of aquatic species [both terrestrial and marine].

#### 4.1.3 Why study Wildlife?

Wildlife or wild animals are the repository of animal genetic material on earth which have evolved over millions of years. It consists of species which have survived or evolved over the last 10,000 years or so. To take a homocentric approach, one may also say that the wild species existing today have survived mankind's influences and encroachments over the last 2000 years, but more so the last 300 to 400 years. Wild animals and wild living things are the genetic dictionary on planet earth. They are also the libraries of life on this earth. The only problem is that the contents of this dictionary have not been properly compiled and indexed, but as we speak some lifeforms (and information on them) **are being lost forever through extinction**. This is not in mankind's best interest. We therefore need to study, protect and conserve our collective wildlife resources for our generation and for future generations to come.

**Can you imagine what life on Earth would be like without “ Butterflies and insects “ ?.....Without a variety of food [ fruits and grain ] of plant origin !!**

**Why?.....Because the Butterflies and Insects pollinate the plants !!!**

#### **4.1.4 Wildlife Farming- WHAT IS WILDLIFE FARMING?**

Wildlife farming can be considered as any organized attempt at rearing animal species which have been traditionally non-domesticated.

#### **4.1.5 Role, Functions and Benefit of Wildlife and Wildlife Farming to Mankind.**

The following is a brief list.

- Production of food and commercial [known and unknown ] products;
- (ii) Economic Opportunities;
- (iii) Rural Development;
- (iv) Recreation and Aesthetics;
- (v) Religious activities;
- (vi) Biological Pest Control;
- (vii) Integrated Farming;
- (viii) Education and
- (ix) Conservation of Animal Species and Animal Genetic Material.

#### **4.1.6 Wildlife Management**

Wildlife Management contains the following activities:

- management of exploited wildlife species;
- management of overabundant wildlife pests;
- management of scarce and declining wildlife;
- management of wildlife in parks and nature reserves and
- the continuous process of seeking finance and resources to fund wildlife management activities.

#### **4.1.7 Laws governing wildlife**

##### **(I) Rationale Behind Veterinary and Animal Health and Trade Regulations:**

1. To prevent the spread of food borne diseases.
2. To prevent the spread of animal diseases from one country to another.
3. To control the spread of diseases from one farm to another.

4. To protect humans from the spread of zoonoses.
5. To provide trade protection.
6. To certify specific disease free areas of the world.
7. To protect endangered species.

## **(II) Veterinary Regulations for International, Domestic and Wildlife Trade**

### **Local Regulations**

- Veterinary Services- Animal Health Ordinances- Veterinary Public Health- Public Health Ordinances
- Governing Abattoirs and Animal Slaughter Houses
- Ante and Post Mortem Inspection of animals and meats
- Wildlife Act and Animal Conservation Acts

### **International Regulations and Conventions**

- International Regulations Governing Trade in Animals and Food of Animal Origin
- Regulations governing the Trade in Endangered Species  
Convention on International Trade in Endangered Species of Wild Fauna and Flora ( CITES Agreement)

#### **4.1.8 Wildlife Activities in the Caribbean**

**Guyana:** The Georgetown Zoo: During the early half of this Century this facility was very important for Zoology Research in the Commonwealth Caribbean . It collaborated in the production of a very useful Journal-  
Journal of British Guyana Museum and Zoology

This Zoo is at present in a state of disrepair and efforts are being made by the San Diego Zoo at providing it with assistance.

**Trinidad:**

1. The Emperor Valley Zoo
2. The Wild Fowl Trust
3. The Wildlife Farmers Association
4. The Hunters Association
5. The Wildlife Section of the Forestry Division, Ministry of Agriculture-Lands and Marine Resources
6. The Field Naturalist Club of Trinidad and Tobago-  
They have been in existence for almost 100 years and produce a Journal.
7. The Open Tropical Forage- Animal Production Laboratory (OTF-APL )
8. Asa Wright Nature Reserve
9. Thompson's Conservation Centre

**Barbados:**

1. The Barbados Nature Park: owned and operated by Mr. Jean Balu
2. The Barbados Zoo: Oughterson House and Zoo Park.

**Cuba: Four (4) Zoos**

Location 1: Havana Zoological Gardens

Ave 26 y Ave del Zoologico Apartado 6095

Ciudad de la Havana, 10600, Cuba tele: 41-5449

Area: 24 ha.

Location 2: National Aquarium

Ave 1 y Calle 60, Miramar Playa

Ciudad de la Havana, , Cuba tele: 29-3504

Area: 1 ha.

Location 3: National Zoological Park

Apartado de Correrros 7097

La Havana 6; 10600, Cuba tele: 40-7237

Area: 350 ha.

Location 4: Zoological Park of Santiago de Cuba

Ave Puyol s/n, Vista Alegre, Santiago de Cuba tele: -7504

Area: 80 ha.

### **Dominican Republic**

Parque Zoologico National, Arroyo Salado, DN  
Apartado Postal 2449, SD, Republica Dominicana  
Tel 562-3149  
Fax 562-2070

Area: 100 ha.  
Arrangement of Exhibits: - 116 species  
- 1680 specimens  
Some Titbits: Zoo administered by the State.

### **St Lucia:**

The Forestry Division, Ministry of Agriculture, St Lucia

### **Jamaica:**

The Kingston Zoo

## **4.1.9 Recommended Readings**

- (1) Clark, T. W; Reading, R. P. and Clarke, A. L. (Editors) (1994): *Endangered Species Recovery*. Island Press, Washington D. C, USA, 18 chapters >439 pages.
- (2) Primack, R (1995): *Primer of Conservation Biology*, Sinauer Associates, Sunderland, Massachusetts, USA
- (3) Nyhuis, A. W. (1994): *The Zoo Book: A Guide to America's Best*. Carousel Press, California, USA. >262 pages.
- (4) Caughley, G and Sinclair, A ( 1994): *Wildlife Ecology and Management* Blackwell, Massachusetts, USA.

## Module II: Zoos

### Unit 4.2 : What are Zoos?

#### 4.2.1 The Learning Objectives

- What is a Zoo ?
- History of Zoos
- Types of Zoos
- Role of Zoos

#### 4.2.2 What is a Zoo ?

##### Definition:

The word **Zoo** is derived from the Greek **Zoion** meaning **Living Creature**. In its simplest form a **Zoo** would therefore mean a place where there is a collection of living creatures. Creatures in this sense would mean animals. However, some **Zoos** have become a place where there is a collection of living things. Some **Zoos** have thus become places of both plant and animal collections.

Webster dictionary suggests that a zoo is " **a place where different animals are kept for people to look at**".

#### 4.2.3 History of Zoos:

The main sources of information for this section have been the following:

1] Anthony D. Marshall (1994)

**Zoo: Profile of 102 Zoos, Aquariums and Wildlife Parks in the United States**

2] Gordon Hubbell (1996)

**Ecology of Captive wildlife-EVS300**

**Barry University, Miami, Florida.**

*Intensive Wildlife Production*

*Module II Unit 4: Wildlife and Zoos Gary W. Garcia 11/22/2004*



**The history of Zoos would now be presented to you in a brief chronological order as follows:**

- 8000BC : Domestication of Goats and Sheep;**
- 4500 BC : live animal collections in Persia ;  
: Egyptians kept wild dogs and cats;**
- 1494 BC : “ Hatshepsut ( hat-soup-it) “ Queen of Egypt collected animals from Somali-land in Eastern Africa [ baboons, green monkeys, greyhounds, leopards and a giraffe]; these animals were displayed in the Temple of Amon in the city of Karnak, Egypt, in the Royal Garden of the Royal Temple; this is considered the first historical account of the existence of a Zoological Park;**
- 1478 BC : Thothmes III, the nephew of Queen Hatshepsut developed his formal Zoological Garden near the Temple of Amon [ these included leopards, baboons, elephants, brown bears, lions, giraffes, antelope and colorful birds.**
- 1100 BC : Chinese emperor Wen Wang built a 900 acre walled park;**
  - 6th century BC : Zoo in Babylon existed;**
  -
- 330 BC : Alexander the Great of Macedonia maintained a collection of African and Asian Elephants, bears , monkeys and other animals; Aristotle is tutor was the first person in recorded history to make scientific observations on natural history using these captive animals;**
- 200 BC : Hannibal kept a famous collection of elephants which he used to cross the Alps, when these animals were not in use they were kept on exhibit in a field outside the city of Carthage;**
- AD 50 : Roman Emperor Nero kept a pet tigers “ Phoebe” to which he fed people who angered him;**

- AD 98 to 117 : Roman Zoo Emperor Trajan kept animals in captivity;
- 775 : Charlemagne kept a pet elephant which he received from the Caliph of Baghdad;
- 1050 : William the Conqueror of England received a bear from his eldest son as a gift;
- 1254 : Henry III of England received as a gift the first elephant brought to England;
- : Leo X set up wild animal collections at the Vatican consisting of monkeys, civets, lions, leopards, bears and an elephant, many Cardinals also began their own private collections, with one collecting humans as slaves from different parts of the world;
- 1333 : In France, Phillip VI had an animal collection at the Louvre;
- 1414 : Yung-Lo Chinese Emperor during the Ming Dynasty brought a Giraffe to Peking;
- 1500+ : Montezuma created a zoological park and botanic gardens in what is now the location of Mexico City;
- 1591 : Hernando Cortez was the first European to see Montezuma's Zoological Collection at Tenochitlan, now Mexico City;
- Early 1700s : In France, Louis XIV , had organized animal collections at Versailles in which trees were planted as part of the exhibits;

- 1752 : The first Modern Zoo in Vienna , Austria
- 1765 : the Imperial Menagerie, Vienna;
- 1775 : the Zoo in Madrid;
- 1793 : Zoo at the Jardin des Plantes ( Botanic Gardens) Paris;
- 1828 : Regents Park Zoo (The London Zoological Society formed) London;
- 1835 : The Bristol Zoo (The Bristol Zoological Society);
- 1873 (1864?) : Central Park Zoo (New York);
- 1868 : Lincoln Park Zoo (Chicago);
- 1874 : The Philadelphia Zoo;
- 1887-89 : Smithsonian Zoo (Washington D.C.);
- 1899 : The Bronx Park, the Bronx Zoo,  
The New York Zoological Society -The Wildlife  
Conservation Society (the Bronx Zoo );
- 1921 Instituto Butanta: Sao Paulo, Brazil- Collection and work on  
venomous animals;
- 1924 American Association of Zoological Parks and Aquariums  
[AAZPA]
- 1947 : The Emperor Valley Zoo (Trinidad )  
[The Zoological Society of Trinidad and Tobago] ;

- 1970+ :Most Zoos in the US began the formation of Education Departments
- 1975 : Parque Zoologico National, Arroyo Salado, DN Apartado Postal 2449, SD, Republica Dominicana [This may be the First Cageless Zoo]
- 1980-81 :The Miami Metro Zoo [Miami, USA, one of the First Cageless Zoos in the World]

#### 4.2.4 Types of ZOOS:

There are at least three very interesting books on zoos. Nyhuis (1990) [ The Zoo Book: A Guide to America's best ] and Marshall (1994) [ Zoo: Profile of 102 Zoos, Aquariums and Wildlife Parks in the United States] are quite factual while Hann (1990) [ Animal Gardens or Zoos around the World] is very useful and entertaining reading.

The following is a simple list of the different types of zoos based on exhibit method or function.

1. **Ancient Zoos** [ Collections of animals for viewing and entertainment ]
2. **Caged Zoos** [ Slide: Lincoln Park Zoo, Historical Cage Exhibit ]
3. **Cageless/Barless Zoos** [ Modern Zoo: The Miami Metro Zoo and the Parque Zoologico of the Dominican Republic could be considered the first true cageless zoos in the World]
4. **Children Zoos / Petting Zoos**
5. **Farm in the Zoo**
6. **Travelling Zoo**
7. **Aquatic Zoos** [The Shedd Aquarium, Orlando Sea World ]
8. **Wildlife Reserves / Safari Parks**
9. **Wild Animal Parks**
10. **Conservation Parks**
11. **Frozen Zoos** [ The San Diego Zoo: Centre for Reproduction in

Endangered Species (CRES), this involves the care and management of frozen sperm and embryos ]

#### **4.2.5 The Role of Zoos**

**RECREATION  
EDUCATION  
RESEARCH  
BREEDING  
CONSERVATION**

#### **4.2.6 The Emperor Valley Zoo ( Republic of Trinidad and Tobago):**

##### **History:**

23 April 1947	A Zoo Committee formed
17 June 1947	Mr J. C. Cator- Chairperson Mr F. Ambard- Secretary
<b>July 1947 formed</b>	<b>The Zoological Society of Trinidad and Tobago</b>
24 Sept 1947	Site Selected
May 1952	Mr. W Dickson appointed the Official Collector
6 June 1952	Mr. N. Augustine made the Permanent Caretaker of the Zoo: Retired in 1980.
8 Nov 1952	Opening of the Emperor Valley Zoo
1 August 1955	Lionel Shannon appointed Curator
1966	The Zoological Society of Trinidad and Tobago incorporated into a Statutory Body
1972-73	Zoo almost closed

April 1973-93     Mr. H. Boos appointed Full Time Curator

1996-                Mr K. Caesar appointed Curator

1997-                Mr S. Ali [Graduate B.Sc. Agric. And M.Sc. Tropical  
Animal Science and Production appointed Assistant  
Curator

### **Functions:**

1. Recreation: Mainly for the benefit of the public of Trinidad and Tobago
2. Education: As a result of 1 above.
3. Research: Very little.
4. Breeding: Some done for stock maintenance.
5. Conservation: A secondary function.

### **Species Inventory:**

Table 1: Species Grouping and distribution at the Emperor Valley Zoo

Animal Grouping	Total Number of Specimens [ % of Total ]		Total Number of Species [ % of Total]	
Mammal	190	[ 10% ]	34	[ 20% ]
Bird	365	[ 19% ]	64	[ 36% ]
Fish	774	[ 41% ]	35	[ 20% ]
Reptile	546	[ 29% ]	37	[ 21% ]
Amphibian	4	[ <1% ]	2	[ 1% ]
Invertebrate	16	[ <1% ]	3	[ 2% ]
Total	1895		176	

Source:

Brown, R; Boos, H. and Garcia, G. W (1994)

A Repository of Indigenous Wildlife Genes at the Emperor Valley Zoo

In Proceedings of the "6 th NIHERST Annual Seminar on Agricultural

#### **4.2.7 Recommended Readings**

- (1) Clark, T. W; Reading, R. P. and Clarke, A. L. (1994) (Editors) : *Endangered Species Recovery*. Island Press, Washington D. C, USA, 18 chapters >439 pages.
- (2) Primack, R (1995): *Primer of Conservation Biology*, Sinauer Associates, Sunderland, Massachusetts, USA
- (3) Nyhuis, A. W. (1994): *The Zoo Book: A Guide to America's Best*. Carousel Press, California, USA. >262 pages.
- (4) Caughley, G and Sinclair, A ( 1994): *Wildlife Ecology and Management* Blackwell, Massachusetts, USA.