INTENSIVE TROPICAL WILDLIFE [NON-DOMESTIC] PRODUCTION SYSTEMS

MODULE # I: Introduction
Unit # 3: An Introduction to Ecology

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Unit 3.1: AN INTRODUCTION TO ANIMAL ECOLOGY

ECOLOGY TEXT:

Odum (1983): Basic Ecology

Anderson (1991): Management of Wildlife Resources Second Edition, Prentice Hall Inc.

Objectives:

(1) What is Ecology — Odum - (1983)

(2) Components in the Study of Ecology

(3) Characteristics of Wildlife Populations — Ch. 2 Anderson (1991)

- Populations, Communities and Ecosystems
- Birth on Natality Rate
- Death on Maturity Rate
- Life Tables
- Survivorship Curves
- Productivity
- Density
- Age Structure
- Genetic Composition

(4) What is a Habitat

(5) Evolution and Adaption

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Unit 3.2: POPULATION GROWTH & INTERACTIONS

Anderson (1991) : Chapter 3

Obj. **(i)** **Population Growth**

- Growth Form
- Growth Equation
  - Exponential
  - Logistic

(ii) **Interactions**

- Competition
- Predation
- Hunting & Fishing
- Symbiosis
- Parasitisme
- Mutualism
- Commensalism
- Diseases

(iii) **Population Cycles**

- Stress
- Food
- Genetics

(iv) **Population Regulation**

- Density Independence
- Density Dependence
- Population Constraints

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Unit 3.3 POPULATION MOVEMENTS & MEASUREMENTS

Anderson 1991 - Ch. 4

Obj. (i) Population Movement

- Migration
- Immigration - Emigration
- Measuring Movements

(ii) Collecting Pollution Data

- Total Counts
- Sampling
- Precision
- Stratified Sampling
- Cluster Sampling
- Sample Size
- Indices

(iii) Methods

- Aerial Surveys
- Trapping
- Transects
- Mapping
- Indirect Methods
- Mark Recapture
- Banding
- Roadside & Cell Counts
- Animal Welfare

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Unit 3.4: POPULATION MODELLING

Anderson (1991) Chapter # 5

Objectives:

(i) Models and Wildlife

- Definition of a Model
- Development of a Model
- Model Characteristics
- Types of Models
  - Stochastic
  - Deterministic
- Wildlife Modeling
  - Population Models
  - Habitat Models
  - Planning Models

(ii) Some Models used in Wildlife Management

- Population Models
  - One Population
  - Turkey
  - Fishers
  - Deer
  - Eagle
  - Fish
  - Kite
  - Disease
- Habitat Models
  - Correlation
  - Predicture

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