# Chapter 13 Wildlife Habitat Evaluation

**Peeyush Gupta** Intergraph SG & I India Pvt. Ltd., India

Swati Goyal Guru Jambheshwar University of Science & Technology, India

### ABSTRACT

Before an individual can evaluate wildlife habitat and make management recommendations, some basic concepts about habitat and its relationships to different wildlife species should be understood. In this chapter, some of the basic concepts will be described; mainly analyzing of habitat alterations, landscape analysis, networking and creation of corridor between protected areas, wildlife habitat suitability analysis using Remote Sensing & GIS. Since most of the contest will be based on these concepts. Like other natural resource fields, wildlife management is both an art and science that deals with complex interactions in the environment. This means that management includes art or judgment based on experience as well as sound factual information based on scientific studies.

DOI: 10.4018/978-1-5225-1814-3.ch013

Copyright ©2017, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

#### Wildlife Habitat Evaluation

## INTRODUCTION

The worldwide destruction of natural environment is reducing the number of species and the amount of genetic variation within the individual species. There are two principal approaches for protecting and managing nature:

- 1. To ensure survival of population of a given species abundantly.
- 2. Conservation of natural community in their original habitats.

During early seventies the 'Protected Area' concept obtained wider acceptability to check the process of depleting biodiversity. In India, this diversity is reflected in the fact that as many as 10 biogeographical regions representing three basic biomes and two natural realms are met (Champion et al., 1968). Major threats to biodiversity include habitat alteration, overharvesting, pollution, climatic change, introduced species and population increase. Of these, habitat alterations due to deforestation, habitat loss, fragmentation and degradation are primarily responsible (McNeely et al., 1990).

## ANALYSING HABITAT ALTERATIONS

Tropical forests are facing disturbance of varying magnitudes in the different regions. The disturbances are leading to the following changes in the habitats:

- Loss of particular species and change in cover characteristic.
- Degradation due to reduction in canopy density.
- Changes in understory vegetation and invasion of exotic species.
- Fragmentation of forest areas leading to the loss of corridors, depletion of minimum habitat areas and reduction of home range.
- Habitats are often very susceptible to degradation viz., fire, overgrazing and cultivation. These factors make it difficult for original vegetation to reestablish (Gupta, 1991).

Above situation justifies the need of well- structured information system, which can allow access to the stored data and monitoring at very short time space. The continuous monitoring and habitat inventory should permit detection of changes related to the both, the habitat components and the immediate population for the analysis of their interrelationship and cause of change. 5 more pages are available in the full version of this document, which may be purchased using the "Add to Cart"

button on the publisher's webpage: www.igi-

global.com/chapter/wildlife-habitat-evaluation/172716

# **Related Content**

#### Introduction and Overview of Wireless Sensor Networks

Wenbin Jiang, Hai Jin, Chen Yuand Chao Liu (2010). *Handbook of Research on Developments and Trends in Wireless Sensor Networks: From Principle to Practice (pp. 1-19).* 

www.irma-international.org/chapter/introduction-overview-wireless-sensor-networks/41108

#### A Review on Conservation of Energy in Wireless Sensor Networks

Oluwadara J. Odeyinka, Opeyemi A. Ajibola, Michael C. Ndinechi, Onyebuchi C. Nosiriand Nnaemeka Chiemezie Onuekwusi (2020). *International Journal of Smart Sensor Technologies and Applications (pp. 1-16).* 

www.irma-international.org/article/a-review-on-conservation-of-energy-in-wireless-sensornetworks/281600

# A Review of the Technologies Trending Towards 5G Network for IoT-Based Smart Healthcare

Monojit Manna, Lina Mondal, Anwesa Naskarand Aditi Sinha Manna (2024). *Revolutionizing Healthcare Treatment With Sensor Technology (pp. 57-68).* www.irma-international.org/chapter/a-review-of-the-technologies-trending-towards-5g-networkfor-iot-based-smart-healthcare/348139

#### Video-Based Motion Capture for Measuring Human Movement

Chee Kwang Quah, Michael Koh, Alex Ong, Hock Soon Seahand Andre Gagalowicz (2010). *Movement-Aware Applications for Sustainable Mobility: Technologies and Approaches (pp. 209-228).* 

www.irma-international.org/chapter/video-based-motion-capture-measuring/42399

## Intelligent Power System Control and Healthcare Data Analysis: A PSO-Based PID Approach

Arpit Yadavand Ranjay Das (2024). *Revolutionizing Healthcare Treatment With* Sensor Technology (pp. 223-237).

www.irma-international.org/chapter/intelligent-power-system-control-and-healthcare-dataanalysis/348150