



# BIODIVERSITY

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# CHE 110: Environmental Studies

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Unit - 3

**Biodiversity**

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# What is the Goal of Conversation?

- Conservation efforts focus on protecting entire ecosystems as well as single species.

- Protecting an ecosystem will ensure that the natural habitats and the interactions of many different species are preserved at the same time.

## Conservation Challenges

- Protecting resources for the future can require people to change the way they earn their living today.

- Conservation regulations must be informed by solid research and must try to maximize benefits while minimizing economic costs.

## Why should we protect Biodiversity ?

### Reasons to protect Biodiversity

1. Medicinal
2. Agricultural
3. Commercial
4. Ecological
5. Ethical/Aesthetic

# Why Biodiversity is Important?

- Generation of soils
- Maintenance of soil quality
- Maintenance of air quality
- Maintenance of water quality
- Pest control
- Detoxification and decomposition of wastes
- Pollination
- Crop production
- Climate stabilization
- Prevention and mitigation of natural disasters
- Provision of food security
- Provision of health care – medicines
- Income generation
- Spiritual and cultural value

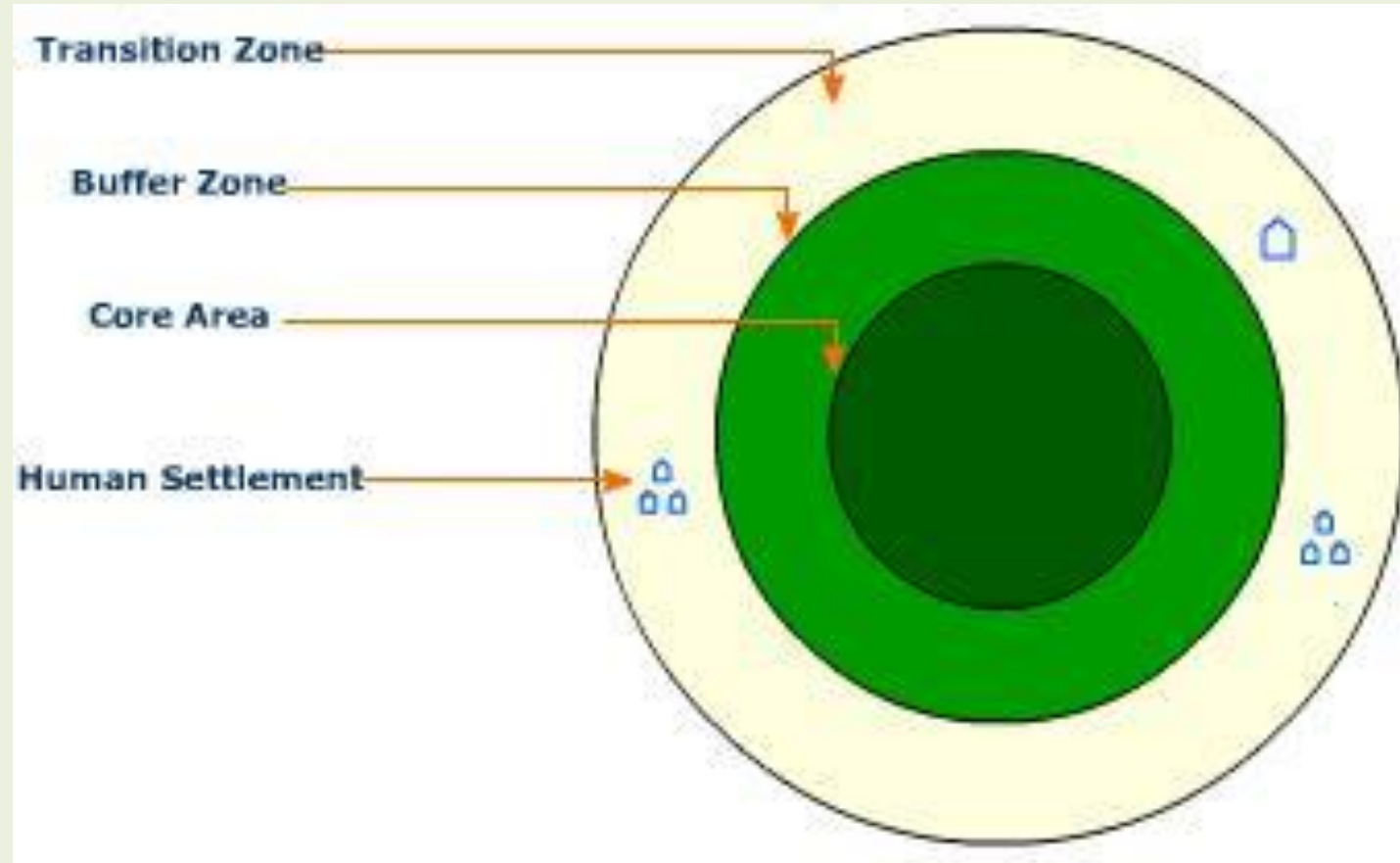
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# Conservation of Biodiversity

- Wildlife conservation is the practice of protecting animal species and their habitats.
- There are two approaches of biodiversity conservation:
  - In situ Conservation: Protection of species in their natural habitat.
  - Ex situ Conservation: Protection in a place away from their natural habitat.



# In-situ Conservation





# In-situ Conservation

## ■ National Parks

- A national park conserves the environment and natural objects and wildlife therein.
- National parks are areas dedicated to conserve wild animals and natural scenery of the environment.
- All private rights are non existent and all forestry operations and other activities such as grazing of domestic animals is prohibited.
- No human inhabitation is allowed in the park apart from on duty public servants and people allowed by chief wildlife warden. It comprises the core zone.



# In-situ Conservation

## ■ Wildlife sanctuaries

- A wildlife sanctuary is an area specially designated where it is illegal to interfere in anyway with the natural life there. Hunting, shooting and fishing would be prohibited.
- Wildlife sanctuary is a place where killing or capturing of any animal is prohibited except under orders of the authorities concerned. they provide protection and optimum living conditions to wild animals.
- A wildlife sanctuary is dedicated the wildlife but it considers the conservation of species only in addition , its boundary is not limited by state legislation.



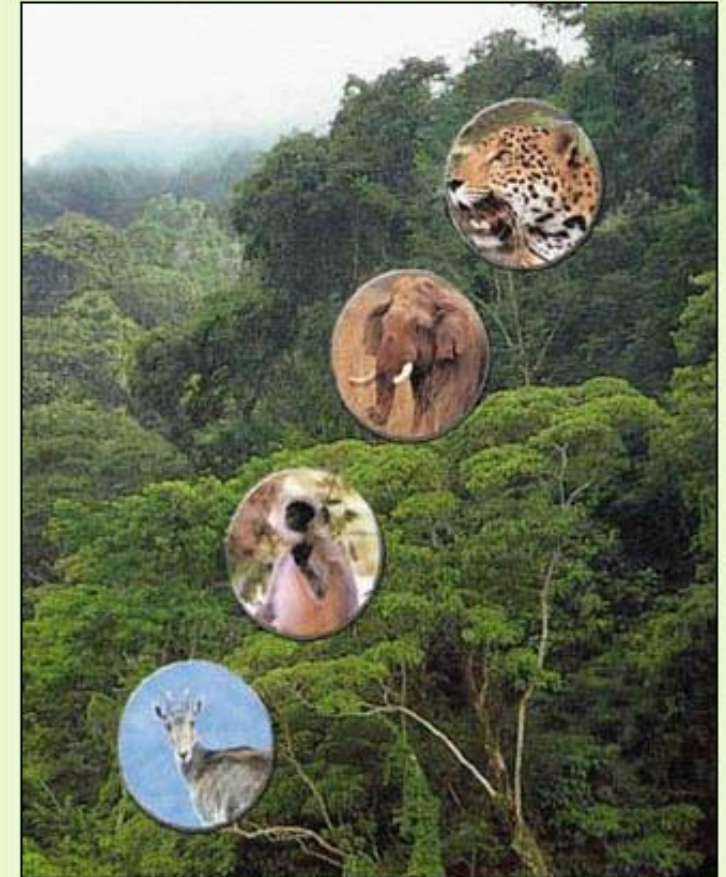


# In-situ Conservation

## ■ Biosphere reserves

- Biosphere reserves are areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use.
- They are internationally recognized, nominated by national governments and remain under sovereign jurisdiction of the states where they are located.

THE NILGIRI BIOSPHERE RESERVE



# In-situ Conservation

- Advantages

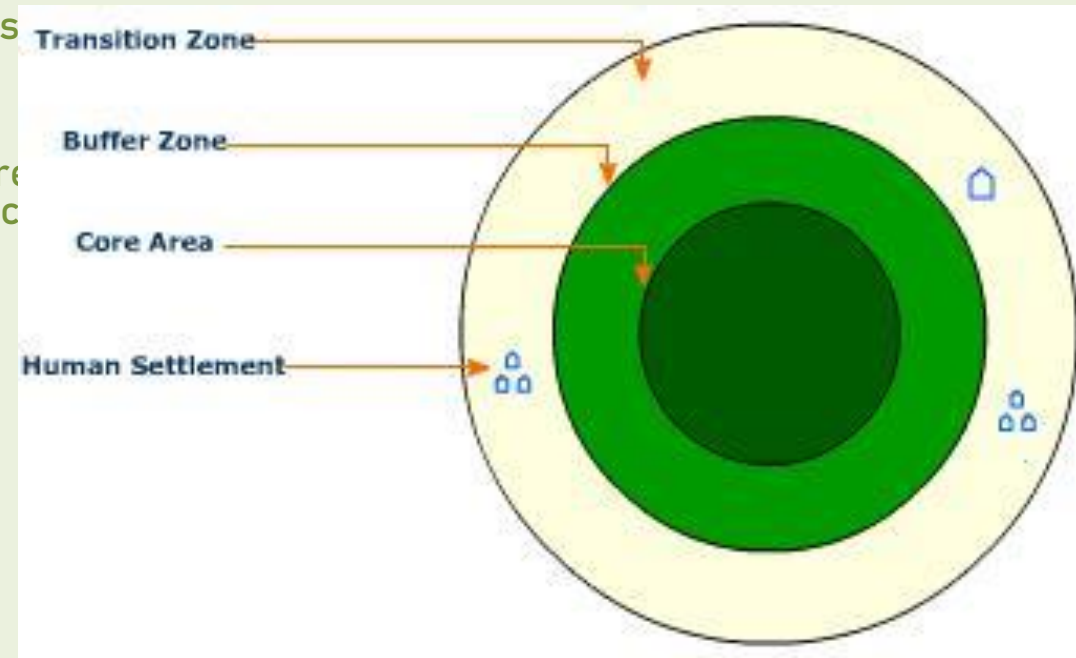
- Ecological integrity is maintained and managed
- Better opportunity for conservation as well as evolution
- Cheaper way of conservation.

- Disadvantages

- Less protection against pollution
- Poachers and Eco tourists may cause damage

# In-situ Conservation

- **Zones of a biosphere reserve**
  - **Core zone**
    - In core or natural zone human activity is not allowed. This area is legally protected and undisturbed ecosystem.
  - **Buffer zone**
    - The immediate surrounding area of core zone is buffer zone. Here limited human activities like research, education and research strategy is permitted.
  - **Transition zone**
    - transition zone is the outermost or peripheral area of biosphere reserve. With the cooperation of reserve management and local people several human activities like settlements, cropping, recreation, and forestry are carried out without disturbing the environment.
  - **Restoration zone**
    - Through the restoration activities selected degraded area called restoration region is restored to natural form. This is a part of Buffer zone.





# In-situ Conservation

	Objectives	Features	Zone
National Parks	Conservation of species of a habitat with minimal or very low intensity of human activities	No person resides in the park other than public servants on duty and persons permitted by the chief wildlife warden	Core
Wildlife Sanctuary	Conservation of species and habitats by manipulative management	No person resides in the park other than public servants on duty and persons permitted by the chief wildlife warden	Core, Buffer and Restoration
Biosphere Reserves	Conservation of natural resources and the improvement of the relationship between humans and the environment	Both natural and human-influenced ecosystems; substantial human settlement	Core, Buffer, Restoration and Transition