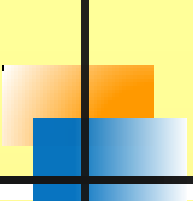
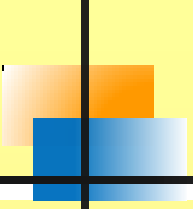
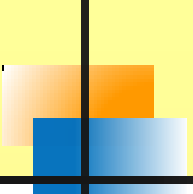


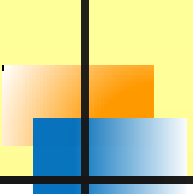


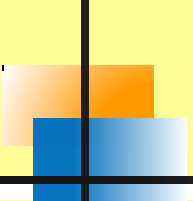
# **BIODIVERSITY AND CONSERVATION**

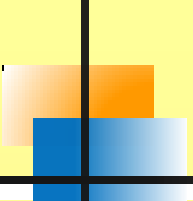
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- **Biodiversity is the heterogeneity exists at different levels of organizations in our biosphere.**
  - **The term biodiversity was popularized by the sociobiologist Edward Wilson.**
  - **Genetic diversity is the diversity in the number as types of genes as well as chromosomes present in different species and the variations in the genes and their alleles in the same species.**
  - **Example genetic variation in medicinal plant *Rauwolfia vomitoria* growing in different Himalayan ranges occurs in terms of the potency and concentration of Reserpine.**
  - **India has more than 50,000 genetically different strains of rice and 1000 varieties of mango.**
  - **Species diversity is the variety of species within a region. It indicates the species richness in any habitat. Example the Western Ghats have a greater Amphibian species diversity than the Eastern Ghats.**

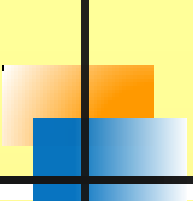
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- **Ecological Diversity is the diversity of ecosystem level of community and ecosystem has three perspectives-**
    - **$\alpha$ -Diversity which is also called local diversity and is the diversity within a community.**
    - **$\beta$ -Diversity is the diversity between two communities.**
    - **$\gamma$ -Diversity which is also called regional diversity, represents the total richness of species in all the habitats found within a region, geographical area or landscape.**
  - **The scientific estimation of total number of species made by Robert May is about 7 million.**
  - **More than 70% of all the species recorded are animals , while plants comprise 22% of total.**
  - **Fungi species in the world are more than the combined total of the species of fishes, amphibians, reptiles and mammals.**

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- **India shares 8.1% of global species diversity and it makes India one of the 12 mega diversity countries of the world.**
  - **About 45,000 species of plants and 90,000 animals have been recorded from India.**
  - **There are probably more than 1,00,000 plant species and more than 3,00,000 animal species yet to be discovered and described.**
  - **Species diversity decreases as we move away from the equator towards the poles.**
  - **Generally Tropics (23.5°N to 23.5°S) have more species than Temperate or Polar area.**
  - **Colombia located near the equator has nearly 1400 species of birds , whereas New York at 41°N has 105 species of birds and Greenland at 71°N only 56 species.**
  - **India with much of its land area in the Tropical latitudes has more than 1200 species of birds.**
  - **Tropical Amazonian Rain Forest in South America has the greatest biodiversity on Earth.**

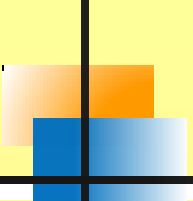
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- **The main reasons for more diversity in Tropics than Temperate regions are-**
    - **Species formation is a part of evolution. Unlike Temperate regions subjected to frequent glaciations for much time period in the past, Tropics remained relatively undisturbed for millions of years and had a long evolutionary time for species diversification.**
    - **Tropical environments are less seasonal, relatively more constant and predictable, which promote niche specialization and lead to a greater species diversity.**
    - **There is more solar energy available in the tropics, which contributes to higher productivity and in turn greater diversity.**
    - **Alien species invasions – Nile perch introduced into Lake Victoria in East Africa caused extinction of more than 200 species of Cichlid fish. Recently illegal introduction of the African catfish (*Clarias gariepinus*) for aquaculture purposes is poisoning a threat to the indigenous catfishes in Indian rivers. Carrot grass (*Parthenium*) , Lantana and water Hyacinth (*Eicchornia*) are the exotic or alien species, which are poisoning threat to native species.**
    - **Co-extinctions – the extinction of a species may affect the associated plant , animal and parasites or coevolved plant-pollinator mutualism.**

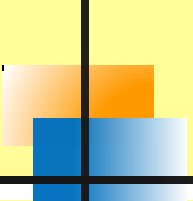
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- **Biodiversity has been declining rapidly the colonization of tropical Pacific Islands by humans is said to have led to the extinction of more than 2,000 species of native birds.**
  - **IUCN red list documented the extinction of 784 species , including 338 vertebrates, 359 invertebrates and 87 plants. In the last 500 years.**
  - **Dodo (Mauritius) , Quagga,(Africa) Thylacine (Australia) , Steller's Sea Cow(Russia)and three sub-species (Bali, Javan and Caspian) of tiger are the examples of recent extinction.**
  - **About 27 species have been extincted during last 20 years. Some groups like Amphibians appear to be more vulnerable to extinction.**

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- **The major causes of biodiversity loss the Evil Quartet speaks of four factors that impact on the environment that lead to biodiversity loss. They are-**
    - **Habitat loss and fragmentation it is the main cause of biodiversity loss. Biodiversity in tropical rain forest and Amazon rain forest are being lost due to habitat loss and fragmentation, when large habitats are broken up into small fragments due to various human activities, mammals and birds requiring large territories and certain animals with migratory habitats are badly affected and leading to population declines.**
    - **Pollution**
    - **Introduction of Exotic Species**
    - **Over-exploitation – Stellar's Sea Cow and passenger pigeon were extincted due to overexploitation by humans.**
  - **Wildlife refers to any living organism in its natural habitat.**
  - **Wildlife includes all plants, animals and microorganisms other than the cultivated plants and domesticated animals.**

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- **Wild life week is celebrated from 1<sup>st</sup> to 7<sup>th</sup> October to create awareness in the public about the wildlife.**
  - **Six values of wildlife are commercial, recreational, biological, aesthetic, scientific and social.**
  - **Wildlife Institute of India is situated in Dehradun.**
  - **Threatened species is the one, which is liable to extinct if not allowed to realize its full biotic potential by providing protection from exotic species.**
  - **The threatened species are recorded in Red Data Book and Red List have been in use for almost 30 years.**
  - **Red Data Book is maintained by IUCN.**
  - **IUCN is International Union for Conservation of Nature and Natural Resources, which is now called World Conservation Union (WCU).**
  - **The main objectives of IUCN are to promote and support the conservation of wildlife and natural resources.**



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- **WCU has its headquarter at Morgan, Switzerland.**
  - **According to Mace and Stuart (1994), 8 categories of threatened species, i.e., extinct , extinct in the wild , critically endangered, endangered, vulnerable, conservation dependent, low risk and data deficient are found.**
  - **A taxon is extinct when there is no reasonable doubt that its last individual has died.**
  - **A taxon is extinct in wild , when it is known only to survive in cultivation , in captivity or as a naturalized population , well outside the past range.**
  - **A taxon is critically endangered , when it is facing an extremely high risk of extinction in the wild in the immediate future. There are 925 animals and 1014 plants which are critically endangered.**
  - **A taxon is endangered , when it is not critically endangered but facing a very high risk of extinction in the wild in the near future.**
  - **Population is estimated to number less than 250 mature individuals. Example –Blue whale , largest lemur (*Idri idri*).**

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- **A taxon is vulnerable , when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium term future. Example- Madagascar frog (*Dyscophus antongilii*) Black buck (*Antilope cervicapra*).**
  - **Taxa that do not currently qualify as critically endangered, endangered or vulnerable , may be classified as conservation dependent.**
  - **A taxon is low risk , when it has been evaluated and does not qualify for any of the categories. In India number is 109 animals, 73 plants are at low risk.**
  - **A taxon is data deficient when there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution or population status.**
  - **A taxon is under the category non-evaluated, when it has not yet been assessed against the criteria.**



Category	Number of Species		Example (Plant)	Example (Animal)
	Plant	Animal		
Critically Damaged	44	18	<i>Berberis nilghiriensis</i>	<i>Sus salvanius</i> (pigmy hog)
Endangered	113	54	<i>Bentickia nicobarica</i>	<i>Ailurus fulgens</i> (red panda)
Vulnerable	87	143	<i>Cupressus cashmeriana</i>	<i>Antelope cervicapra</i> (black buck)

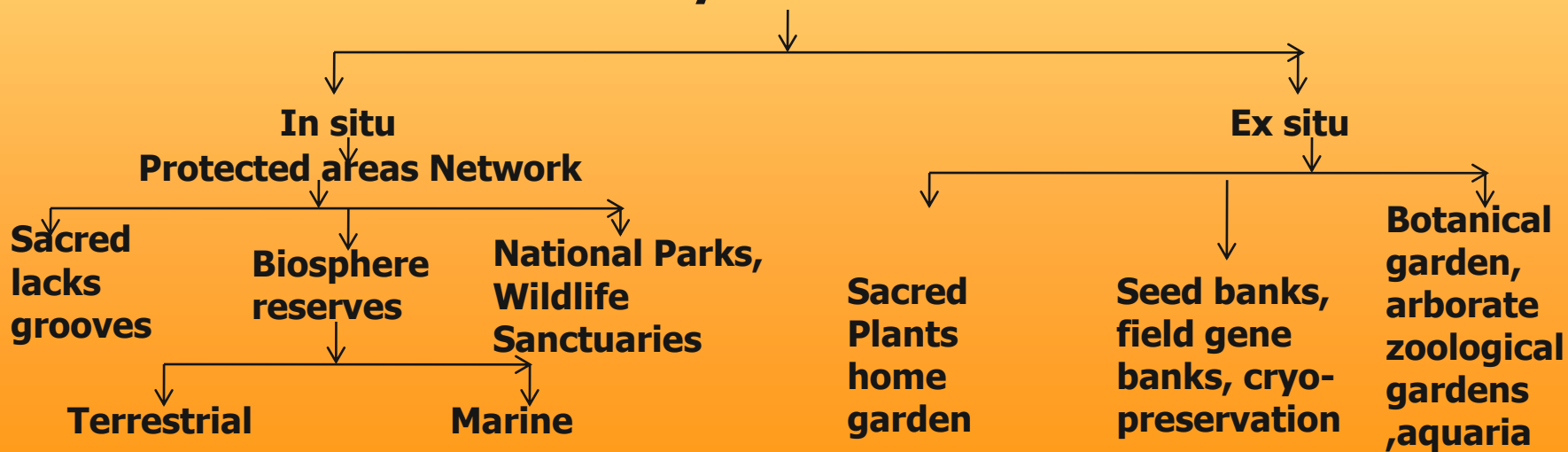
- **India has varied climatic and geographical conditions with luxuriant tropical forests.**
- **Indian wildlife comprises about 75,000 species of animals including about 350 species of mammals 2100 species of birds and plenty of reptiles like lizards ,snakes.**
- **The most peculiar trait of Sunderban Tiger is its tendency of man-eating.**
- **Sunderban Tiger competes with salt water crocodile for survival.**

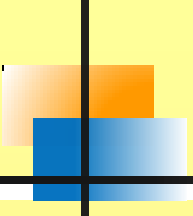


<b>Common Name</b>	<b>Scientific Name</b>	<b>Site of Conservation</b>
Asiatic Lion	<i>Panthera leo persica</i>	Gir Forest
Blackbuck	<i>Antelope cervicapra</i>	Velavader national Park (Gujarat)
Great Indian Bustard	<i>Choriotis nigriceps</i>	Desert National Park
Hoolock Gibbon	<i>Hylobates holock</i>	Assam and Chittagong
Indian Elephant	<i>Elephas maximus</i>	-
Kashmir Stag (Hangul)	<i>Cervus elaphus hanglu</i>	Dachigam National Park
Lion-tailed Macaque	<i>Macaca silenus</i>	Periyar Wildlife Sanctuary
Musk Deer	<i>Moschus chrysogaster</i>	Kedarnath Sanctuary
Nilgiri Tahr	<i>Hemitrogus hyllocrius</i>	Periyar Wildlife Sanctuary
Peacock	<i>Pavo cristatus</i>	North and Central India
Pigmy hog	<i>Sus sullivanus</i>	Bhutan and Western Assam
Rhinoceros	<i>Rhinoceros unicornis</i>	Kaziranga
<i>Snow Leopard</i>	<i>Panthera</i>	Dachigam National Park
Swamp Deer (Barasingha)	<i>Cervus duvauceli</i>	Kanha National Park
Sambhar	<i>Cervus unicolor niger</i>	Kanha National Park
Thamin Deer	<i>Cervus eldi eldi</i>	Keibul Lamjao (Manipur)
Tiger	<i>Panthera tigris</i>	Project Tiger sites

- Conservation is the most efficient and most beneficial utilization of the natural resources.
- Conservation of biodiversity is protection, uplift and scientific management of biodiversity so as to maintain it at its optimum level and derive sustainable, benefits for the present as well as future strategies.
- In accordance with the conservation strategies recommended by the world convention of conservationists, wildlife conservation may be ex situ or in situ type.

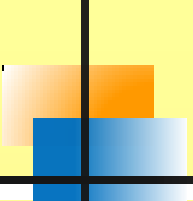
### Biodiversity Conservation




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- **Ex situ means “conservation outside the habitats by perpetuating sample population in genetic resource centres.”**
  - **Examples- zoos , botanical gardens, culture collections, gene pools , seed banks etc.**
  - **Zoo is a place where wild animals are kept for public showing.**
  - **They have recorded success with captive breeding of animals.**
  - **Botanical garden is a collection of living plants maintained for both pure and applied studies.**
  - **These play an important role in the conservation of plant species so much , so that there are several instances when plants believed to be extinct were found living only in botanical gardens.**
  - **In seed banks germplasm is stored as seeds of various accessions. Under suitable conditions, seeds of many species can be stored for upto 50 to 100 year.**



<b>Name of Zoo</b>	<b>City</b>	<b>State</b>
<b>Indira Gandhi Zoological Park</b>	<b>Vishakhapatnam</b>	<b>Andhra Pradesh</b>
<b>Nehru Zoological Park</b>	<b>Hyderabad</b>	<b>Andhra Pradesh</b>
<b>Arignar Anna Zoological Park</b>	<b>Chennai</b>	<b>Tamil Nadu</b>
<b>Sri Chamarajendra Zoological Park</b>	<b>Mysore</b>	<b>Karnataka</b>
<b>Kamala Nehru Zoological Park</b>	<b>Ahmedabad</b>	<b>Gujarat</b>
<b>Veer mata Jijabai Zoological Park</b>	<b>Mumbai</b>	<b>Maharashtra</b>
<b>Sanjay Gandhi Biological Park</b>	<b>Patna</b>	<b>Bihar</b>
<b>Kanpur Zoological Park</b>	<b>Kanpur</b>	<b>Uttar Pradesh</b>
<b>Jawaharlal Nehru Biological Park</b>	<b>Bokaro</b>	<b>Jharkhand</b>
<b>Bannerghatta Biological Park</b>	<b>Bangalore</b>	<b>Karnataka</b>
<b>Guindy Snake Park</b>	<b>Chennai</b>	<b>Tamil Nadu</b>
<b>Aurangabad Zoological Park</b>	<b>Aurangabad</b>	<b>Maharashtra</b>
<b>Indore Zoological Park</b>	<b>Indore</b>	<b>Madhya Pradesh</b>

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- **Pollen storage is considerably important in the conservation of genetic diversity.**
  - **The life of pollen has been reported 3 years in some species.**
  - **Tissue culture can be extended to endangered species as well as those which may otherwise requires very rapid climatic condition and can be maintained at one place in aseptic cultures.**
  - **Genetic Engineering helps in the genetic manipulation of an organism and increasing its usefulness to people.**
  - **In situ conservation of living resources through their maintenance within the natural ecosystem, in which they occur.**
  - **It includes a comprehensive system of protected areas such as National Parks, Sanctuaries, Natural Reserves, Natural Monuments, Cultural Landscapes ,Biosphere Reserves and several others.**



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- **A National Park is an area strictly reserved for the protection and welfare of wildlife.**
  - **In India , there are 96 National Parks covering an area of 38029.18 square Kilometers, which is 1.16% of India's total surface area.**
  - **The first National Park in the world, the Yellowstone National Park, was found in 1872 in USA.**
  - **In 1935 , the first National Park of India was established in the foothills of the Himalayas presently known as Corbett National Park.**
  - **A total of 166 National Parks have been authorized. Plants are underway to establish the remaining scheduled parks.**
  - **Sanctuaries are notified for the protection of wild animal fauna.**
  - **In India, there are over 500 sanctuaries in different states.**



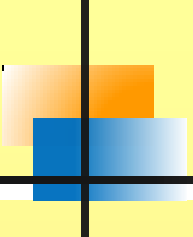
<b>Name of National Park</b>	<b>Location</b>	<b>State</b>
<b>Nagarjuna Sagar Sanctuary</b>	<b>Nalgonda</b>	<b>Andhra Pradesh</b>
<b>Coringa Sanctuary</b>	<b>East Godavari</b>	<b>Andhra Pradesh</b>
<b>Pulicat (Lake) Sanctuary</b>	<b>Nellore</b>	<b>Andhra Pradesh</b>
<b>Namdapha National Park</b>	<b>Tirap</b>	<b>Andhra Pradesh</b>
<b>Kaziranga National Park</b>	<b>Sibsagar</b>	<b>Assam</b>
<b>Manas National Park</b>	<b>Barpeta</b>	<b>Assam</b>
<b>Sanjay Gandhi Biological Park</b>	<b>Patna</b>	<b>Bihar</b>
<b>Palamau National Park</b>	<b>Daltongunj</b>	<b>Bihar</b>
<b>Valmiki Sagar Sanctuary</b>	<b>Champaran</b>	<b>Bihar</b>
<b>Sukhna Lake Sanctuary</b>	<b>Chandigarh</b>	<b>Punjab</b>
<b>Dhangadhra Sanctuary</b>	<b>Runn of Kutch</b>	<b>Gujarat</b>
<b>Gir National Park</b>	<b>Junagarh</b>	<b>Gujarat</b>
<b>Velvadar National Park</b>	<b>Bhavnagar</b>	<b>Gujarat</b>
<b>Sulatnpur Bird Sanctuary</b>	<b>Gurgaon</b>	<b>Haryana</b>

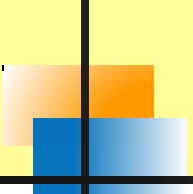



<b>Name of National Park</b>	<b>Location</b>	<b>State</b>
<b>Govind Sagar Sanctuary</b>	<b>Bilaspur</b>	<b>Himachal Pradesh</b>
<b>Dachigam National Park</b>	<b>Srinagar</b>	<b>Jammu and Kashmir</b>
<b>Bandipur National Park</b>	<b>Mysore</b>	<b>Karnataka</b>
<b>Ranganathan Bird Sanctuary</b>	<b>Mysore</b>	<b>Karnataka</b>
<b>Periyar National Park</b>	<b>Idukki</b>	<b>Kerala</b>
<b>Silent Valley National Park</b>	<b>Palakkad</b>	<b>Kerala</b>
<b>Indrāvati National Park</b>	<b>Bastar</b>	<b>Madhya Pradesh</b>
<b>Kanha National Park</b>	<b>Mandla and Balaghat</b>	<b>Madhya Pradesh</b>
<b>Pench National Park</b>	<b>Seoni</b>	<b>Madhya Pradesh</b>
<b>Melghat National Park</b>	<b>Ghaurilgarh</b>	<b>Maharashtra</b>
<b>Keibul Lamjao National Park</b>	<b>Logtak</b>	<b>Manipur</b>
<b>Nokvek National Park</b>	<b>West Garo Hills</b>	<b>Meghalaya</b>
<b>Chilka Lake Bird Sanctuary</b>	<b>Balagaon</b>	<b>Orrisa</b>
<b>Simlipal National Park</b>	<b>Mayurbhanj</b>	<b>Orrisa</b>

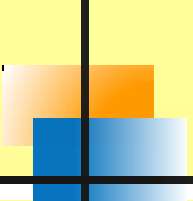


<b>Name of National Park</b>	<b>Location</b>	<b>State</b>
<b>Desert National Park</b>	<b>Jaisalmer and Barmer</b>	<b>Rajasthan</b>
<b>Keoladeo Ghana Bird Sanctuary</b>	<b>Bharatpur</b>	<b>Rajasthan</b>
<b>Ranthambore National Park</b>	<b>Sawai Madhopur</b>	<b>Rajasthan</b>
<b>Sariska National Park</b>	<b>Alwar</b>	<b>Rajasthan</b>
<b>Kalakad Bird Sanctuary</b>	<b>Tirunelveli</b>	<b>Tamil Nadu</b>
<b>Marine National Park</b>	<b>Gulf of Mannar</b>	<b>Tamil Nadu</b>
<b>Corbett National Park</b>	<b>Nainital</b>	<b>Uttarakhand</b>
<b>Dudhwa National Park</b>	<b>Lakhimpur Kheri</b>	<b>Uttar Pradesh</b>
<b>Kedarnath Bird Sanctuary</b>	<b>Kedarnath</b>	<b>Uttarakhand</b>
<b>Rajaji National Park</b>	<b>Shivalik Hills</b>	<b>Uttarakhand</b>
<b>Valley of Flowers National Park</b>	<b>Chamoli</b>	<b>Uttarakhand</b>
<b>Buxa National Park</b>	<b>Buxa</b>	<b>West Bengal</b>
<b>Chilka Lake Bird Sanctuary</b>	<b>Madarihat</b>	<b>West Bengal</b>
<b>Sunderban National Park</b>	<b>24-Parganas</b>	<b>West Bengal</b>

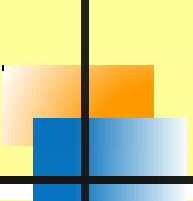
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- **Among these, the 28 tiger reserves are governed by Project Tiger, one of special significance in the conservation of the tiger.**
  - **Some wildlife sanctuaries are specifically named bird sanctuary.**
  - **The concept of 'Biosphere reserves' was launched under MAB programme of UNESCO in 1975.**
  - **Biosphere Reserve programme was started in India in 1986.**
  - **Total Biosphere Reserves in India are 14.**
  - **The first Biosphere Reserve established in 1986 was Nilgiri Biosphere Reserve.**
  - **MAB stands for Man And Biosphere Programme.**
  - **Man and Biosphere programme was launched by UNESCO in 1971.**

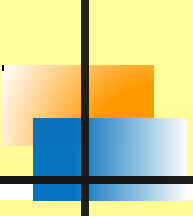
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- **Project Tiger (*Panthera tigris*)** was started in 1973 in order to check depletion in population of tiger.
  - **Initially it was undertaken in 17 National Parks.**
  - **Recently this project is extended to more National Parks and total is now 23 National Parks .**
  - **Lion Project (*Panthera leo persica*)** was started in 1972. it is located in Gir National Park, Junagarh (Gujarat).
  - **Snow Leopard Project (*Panthera uncia*)** is located throughout Himalayas. Example Kanchenjunga National Park (Gangtok).
  - **Musk Deer Project (*Moschus moschiferus*)** is located at Kedarnath Sanctuary (Uttarakhand), Manali Sanctuary (Himachal Pradesh) and Shikari Devi Sanctuary (Himachal Pradesh).
  - **“Project Elephant”** was launched in 1992 and it covers both wild and domestic elephants.

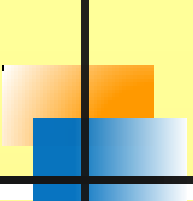
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- **The term biodiversity was coined by E.O.Wilson.**
  - **Earth summit of Rio de Janeiro (1992) resulted in Convention on biodiversity.**
  - **The Convention on biodiversity consists of 42 articles.**
  - **Biological diversity day is 29<sup>th</sup> December.**
  - **The Environmental Protection Act was passed in 1986.**
  - **IUCN now called World Conservation Union has its headquarter at Switzerland.**
  - **Convention of Biodiversity came into force on 29 Dec1993.**
  - **'National Wildlife Protection Act' was passed in 1972.**
  - **The world summit on sustainable development was held in August ,2002 in Johannesburg.**
  - **MAB stands for Man and Biosphere.**
  - **Occurrence of endemic species in South America and Australia is due to continental separation.**
  - **World Wildlife Week is observed during first week of October.**
  - **Biosphere Reserve Project was started in India during 1986.**

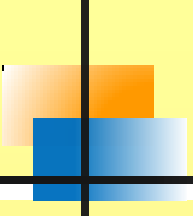
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- **There are 25 ecological hotspots in the world and 2 in India.**
  - **The term hotspots for high diversity ecological region was coined by Myer.**
  - **Wildlife is all vertebrates of reserve forests.**
  - **Arboretum is botanical garden with trees and shrubs.**
  - **Gene bank is an institution where valuable plant material- likely to become irretrievably lost in the wild or in cultivation is preserved in a viable condition.**
  - **Biodiversity is determined by species richness and evenness.**
  - **Susceptibility to extinction is due large body size small population and high trophic level.**
  - **Forest Diversity is not included in Key elements of biodiversity.**
  - **Differentiation diversity is called  $\beta$ -diversity.**
  - **Point diversity is diversity of a microhabitat.**
  - **$\alpha$ -diversity is biodiversity present within community.**
  - **Rate of replacement of species along a gradient of habitats / communities is called  $\beta$ -diversity.**

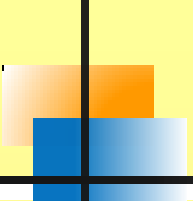


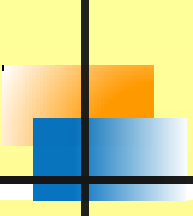
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- **Red Data Book contains information about endangered plants and animals.**
  - **Rare endangered and endemic taxa can be found intact and flourishing in sacred grooves.**
  - **Decrease in species diversity in tropical countries is mainly due to deforestation.**
  - **Discovery of new species has recently picked up due to project species 2000 and global diversity and information.**
  - **Those species whose population have been seriously depleted and whose ultimate security is not assured are known as endangered species.**
  - **In situ conservation national genetic resources can be achieved by establishing National Park, Wildlife Sanctuaries and Biosphere Reserve.**
  - **Keystone species deserve protection because these play an important role in supporting other species.**
  - **National Park is the in situ method of conservation.**

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- **Buffer zone of biosphere reserve is where no human activity is allowed.**
  - **Biosphere reserves differ from national Parks and Wildlife Sanctuaries because in the biosphere people are an integral part of the system.**
  - **WWF-N has logo for conservation of Red Panda.**
  - **The management of biosphere in such a way that it may yield one greatest suitable benefit to present generation, while maintaining its potential to meet the needs of future generation is a forestation.**
  - **A threatened species is endangered , vulnerable and rare species.**
  - **Ex situ conservation is carried out in Zoological Parks.**
  - **Endemic plants are those plants restricted to certain area.**
  - **In North-East India primitive flowering plants and primitive Angiosperm families occur.**

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- **Eastern Himalayas and Western Ghats show maximum biodiversity in India.**
  - **Asiatic lion is protected in Gir National Park.**
  - **Cheetah has become extinct from India.**
  - **Western Ghats is the biodiversity rich zone of India and is considered a hot-spot of biodiversity in India.**
  - **Simlipal is Biosphere Reserve.**
  - **'Hangul Project' was started by government to save Hangul (*Cervus hangul*) in 1970. The sanctuary, where it is started is Dachigam Sanctuary.**
  - **Kanha National Park is situated in Madhya Pradesh.**
  - **Khecheopalri lake of Sikkim is a scared lake.**
  - **Dudhwa National Park is situated in Uttar Pradesh.**
  - **Keoladeo Ghana Bird Sanctuary, Bharatpur is famous for its migratory birds.**
  - **Jim Corbett National Park is known for tigers.**
  - **Rajaji National Park is situated in Uttarakhand.**

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- **Bandipur National Park is site of tiger project.**
  - **The Sanctuary which has maximum number of rare animals is Manas National Park.**
  - **Kerala has all the three species of crocodile and started save crocodile project.**
  - **Breeding place of flamingo in India is Chilka Lake.**
  - **Tiger reserves in India for 'Project tiger' are more than 16.**
  - **The first white tiger safari in the world is in Nandan Kanan Zoo Park, Orrisa.**
  - **Maximum absorption of rainfall water is done by tropical evergreen forest.**
  - **Significant wetlands of India have been declared as Ramsar sites.**
  - **First National Park of India was Jim Corbett National Park.**

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- **In India we find mangoes with different flavours, colours , fibre content, sugar content and even shelf life on account of genetic diversity.**
  - **If forest cover is reduced to half large biomes will become deserts.**
  - **Animals like Cockroach , lizard and mice share buildings of human dwellings. Such animals are inquilines (an animal that lives commensally in the nest, burrow, or dwelling place of an animal of another species).**
  - **The endangered largest living lemur *Idri idri* is inhabitant of Madagascar.**
  - **Dodo an extinct flightless bird , belonged to Mauritius.**
  - ***Bentinckia nicobarica* and Red panda are endangered plant and animals of India.**
  - **Hoolock Gibbon is found in Hazaribagh National Park.**

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- **Siberian cranes are regular visitors of Keoladeo Ghana Bird Sanctuary.**
  - **Project Musk Deer was launched in 1974 in Kedarnath Sanctuary, Uttar Pradesh.**
  - **Fishes comprises highest number of endangered species.**
  - ***Chiru* is the source of the world's finest, lightest, warmest and most expensive wool-the shahtoosh.**
  - **Rare animal Hispid hare (*Caprologus hispidus*) is found in Manas National Park.**
  - **Brown-antlered deer is one of the rarest mammal found in Keibul Lamjao National Park, Manipur, India.**
  - **Plant species on the verge of extinction due to over-exploitation is *Podophyllum* which is one of the endangered species of Indian medicinal plant.**
  - **Water hyacinth, *Prosopis cineraria* are exotic species introduced in India.**



**Thanks...**