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## BIOSPHER RESERVES, NATIONAL PARKS AND SANCTUARIES

### WILDLIFE OF INDIA

The wildlife in India comprises a mix of species of different types of organisms. Apart from a handful of the major farm animals such as cows, buffaloes, goats, poultry, pigs & sheep, India has an amazingly wide variety of animals native to the country. It is home to Tigers, Lions, Leopards, Pythons, Wolves, Foxes, Bears, Crocodiles, Rhinoceroses, Camels, Wild dogs, Monkeys, Snakes, Antelope species, Deer species, varieties of bison and not to mention the mighty Asian elephant. The region's rich and diverse wildlife is preserved in 89 national parks, 18 Bio reserves and 400+ wildlife sanctuaries across the country. India has some of the most biodiverse regions of the world and hosts three of the world's 34 biodiversity hotspots – or treasure-houses – that is the Western Ghats, the Eastern Himalayas and Indo- Burma. Since India is home to a number of rare and threatened animal species, wildlife management in the country is essential to preserve these species. According to one study, India along with 17 mega diverse countries is home to about 60-70% of the world's biodiversity.

India, lying within the Indomalaya ecozone, is home to about 7.6% of all mammalian, 12.6% of avian, 6.2% of reptilian, and 6.0% of flowering plant species. Many ecoregions, such as the shola forests, also exhibit extremely high rates of endemism; overall, 33% of Indian plant species are endemic. India's forest cover ranges from the tropical rainforest of the Andaman Islands, Western Ghats, and Northeast India to the coniferous forest of the Himalaya. Between these extremes lie the sal-dominated moist deciduous forest of eastern India; teak-dominated dry deciduous forest of central and southern India; and the babul-dominated thorn forest of the central Deccan and western Gangetic plain. Important Indian trees include the medicinal neem, widely used in rural Indian herbal

remedies. The pipal fig tree, shown on the seals of Mohenjo-daro, shaded the Gautama Buddha as he sought enlightenment.

Many Indian species are descendants of taxa originating in Gondwana, to which India originally belonged. Peninsular India's subsequent movement towards, and collision with, the Laurasian landmass set off a mass exchange of species. However, volcanism and climatic change 20 million years ago caused the extinction of many endemic Indian forms. Soon thereafter, mammals entered India from Asia through two zoogeographical passes on either side of the emerging Himalaya. As a result, among Indian species, only 12.6% of mammals and 4.5% of birds are endemic, contrasting with 45.8% of reptiles and 55.8% of amphibians. Notable endemics are the Nilgiri leaf monkey and the brown and carmine Beddome's toad of the Western Ghats. India contains 172, or 2.9%, of IUCN-designated threatened species. These include the Asiatic lion, the Bengal tiger, and the Indian white-rumped vulture, which suffered

### NEW WILDLIFE ACTION PLAN (2002-16)

It points out the strategy for the conservation of wild fauna and flora in the country. It strengthens and increases the Protected Area Network and works for the effective management of protected areas, conservation of endangered species, control of poaching, taxidermy and illegal trade in wild animals and plant species, ensures people's participation in wildlife conservation; enhances financial allocation for ensuring sustained fund flow to the wildlife sector, and also works for the Integration of National Wildlife Action Plan with other sectoral programmes.

a near-extinction from ingesting the carrion of diclofenac-treated cattle.

In recent decades, human encroachment has posed a threat to India's wildlife; in response, the system of national parks and protected areas, first established in 1935, was substantially expanded. In 1972, India enacted the Wildlife Protection Act and Project Tiger to safeguard crucial habitat; further federal protections were promulgated in the 1980s. Along with over 515 wildlife sanctuaries, India now hosts 18 biosphere reserves, four of which are part of the World Network of Biosphere Reserves; 26 wetlands are registered under the Ramsar Convention.

The varied and rich wildlife of India has had a profound impact on the region's popular culture. The common name for wilderness in India is Jungle, which was adopted into the English language. The word has been also made famous in *The Jungle Book* by Rudyard Kipling. India's wildlife has been the subject of numerous other tales and fables such as the Panchatantra.

The endangered Black buck at the Undying National Park within the Chennai metropolis. One of the world's rarest monkeys, Gee's Golden Langur typifies the precarious survival of much of India's mega fauna.

India is home to several well-known large mammals, including the Asian Elephant, Bengal Tiger, Asiatic Lion, Leopard, Sloth Bear and Indian Rhinoceros. Some other well-known large Indian mammals are: ungulates such as the rare Wild Asian Water buffalo, common Domestic Asian Water buffalo, Gail, Gaur, and several species of deer and antelope. Some members of the dog family, such as the Indian Wolf, Bengal Fox and Golden Jackal, and the Dhole or Wild Dogs are also widely distributed. However, the dhole, also known as the whistling hunter, is the most endangered top Indian carnivore, and the Himalayan Wolf is now a critically endangered species endemic to India. It is also home to the Striped Hyena, Macaques, Langurs and Mongoose species.

The need for conservation of wildlife in India is often questioned because of the apparently incorrect priority in the face of direct

## **PROTECTED AREA NETWORK**

Under the Wildlife (Protection) Act, 1972 state governments are empowered to declare any area of their states as a sanctuary or a national park to protect, propagate or develop the wildlife in it or the environment of the area. Today the network of wildlife protected areas such as national parks, sanctuaries, biosphere reserves and community reserves covers representative samples of most of the wildlife ecosystems of the country, with good geographical distribution. All these areas are endowed with remarkable ecological, floral, faunal or geomorphologic significance. At present, there are around 90 national parks and 500 sanctuaries in India. The area under national parks and sanctuaries is around 1.561akh (.156 million) sq km. Despite this, out of the 10 identified bio-geographic zones of the country, some are still deficient in protected area coverage. An expert committee constituted by the Government of India had recommended that a minimum of 4% of the country's geographical area should be set apart as national parks or sanctuaries.

All national parks and sanctuaries, however, are not alike. Some have been created specifically to protect rare and endangered species, while some are famous for the richness and variety of their wildlife. The inestimable value of these protected areas - in safeguarding varied ecosystems and, in the process, protecting the soil from erosion, recycling wastes and preserving genetic material which is vital for sustaining agricultural crops - has been universally recognized.

poverty of the people. However, Article 48 of the Constitution of India specifies that, "The state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country" and Article 51-A states that "it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for living creatures."

Large and charismatic mammals are important for wildlife tourism in India, and

several national parks and wildlife sanctuaries cater to these needs. Project Tiger, started in 1972, is a major effort to conserve the tiger and its habitats. At the turn of the 20th century, one estimate of the tiger population in India placed the figure at 40,000, yet an Indian tiger census conducted in 2008 revealed the existence of only 1,411 tigers. 2010 Tiger census revealed that there are 1700 tigers left in India.[13] The passing of the Forest Rights Act by the Indian government in 2008 has been the final nail in the coffin and has pushed the Indian tiger to the verge of extinction. Various pressures in the later part of the 20th century led to the progressive decline of wilderness resulting in the disturbance of viable tiger habitats. At the International Union for the Conservation of Nature and Natural Resources (IUCN) General Assembly meeting in Delhi in 1969, serious concern was voiced about the threat to several species of wildlife and the shrinkage of wilderness in India. In 1970, a national ban on tiger hunting was imposed, and in 1972 the Wildlife Protection Act came into force. The framework was then set up to formulate a project for tiger conservation with an ecological approach. However, there is not much optimism about this framework's ability to save the peacock, which is the national bird of India.

### **BIOSPHERE**

The biosphere is the biological component of earth systems, which also include the lithosphere, hydrosphere, atmosphere and other "spheres" (e.g. cryosphere, anthrosphere, etc.). The biosphere includes all living organisms on earth, together with the dead organic matter produced by them.

The biosphere concept is common to many scientific disciplines including astronomy, geophysics, geology, hydrology, biogeography and evolution, and is a core concept in ecology, earth science and physical geography. A key component of earth systems, the biosphere interacts with and exchanges matter and energy with the other spheres, helping to drive the global biogeochemical cycling of carbon, nitrogen, phosphorus, sulfur and other elements. From an ecological point of view, the biosphere is the "global ecosystem", comprising the totality of

biodiversity on earth and performing all manner of biological functions, including photosynthesis, respiration, decomposition, nitrogen fixation and denitrification.

The biosphere is dynamic, undergoing strong seasonal cycles in primary productivity and the many biological processes driven by the energy captured by photosynthesis. Seasonal cycles in solar irradiation of the hemispheres is

### **MAN AND THE BIOSPHERE (MAB) PROGRAM?**

The Man and the Biosphere Program (MAB) was launched in 1970. A UNESCO Biosphere Conference in 1968 had brought together representatives of government and non-governmental organizations to consider what should be done about threats to the biosphere that were being increasingly perceived by U.N. Member States. After this, an International Co-ordinating Council was formed, which recommended convening panels of experts from the member states. The ICC also emphasized that establishment of reserves was important to meet scientific, educational, cultural and recreational needs. This came to be known as the "biosphere reserve" project.

MAB's original aim was to establish protected areas representing the main ecosystems of the planet in which genetic resources could be protected and research and monitoring could be carried out. These protected areas were to be called "biosphere reserves" in reference to the MAB program's name. Like all scientific programs, MAB has been refined over the years but is still committed to its original aims. Today, MAB is a set of related scientific research projects with three focuses:

- Minimizing the loss of biological diversity;
- Making people aware of how cultural diversity and biological diversity affect each other; and
- Promoting environmental sustainability through the World Network of Biosphere Reserves

the main driver of this dynamic, especially by its strong effect on terrestrial primary productivity in the temperate and boreal biomes, which essentially cease productivity in the winter time. The biosphere has evolved since the first single-celled organisms originated 3.5 billion years ago under atmospheric conditions resembling those of our neighboring planets Mars and Venus, which have atmospheres composed primarily of carbon dioxide. Billions of years of primary production by plants released oxygen from this carbon dioxide and deposited the carbon in sediments, eventually producing the oxygen-rich atmosphere we know today. Free oxygen, both for breathing (O<sub>2</sub>,

respiration) and in the stratospheric ozone (O<sub>3</sub>) that protects us from harmful UV radiation, has made possible life as we know it while transforming the chemistry of earth systems forever.

As a result of long-term interactions between the biosphere and the other earth systems, there is almost no part of the earth's surface that has not been profoundly altered by living organisms. The earth is a living planet, even in terms of its physics and chemistry. A concept related to, but different from, that of the biosphere, is the Gaia hypotheses, which posits that living organisms have and continue to transform earth systems for their own benefit.

### LIST OF BIOSPHERE RESERVES IN INDIA

No.	Year	Name	States	Type	Area
1	2008	Kachchh Biosphere Reserve	Gujarat	Semi-Arid	12454
2	1989	Gulf of Mannar	Tamil Nadu	Coasts	10500
3	1989	Sunderbans	West Bengal	Gigantic Delta	9630
4	1988	Nanda Devi	Uttaranchal	West Himalayas	5860
5	1986	Nilgiri Biosphere Reserve	Tamil Nadu, Kerala and Karnataka	Western Ghats	5520
6	1998	Dehang Debang	Arunachal Pradesh	East Himalayas	5112
7	1999	Pachmarhi	Madhya Pradesh	Semi-Arid	4926
8	1994	Similipal	Orissa	Deccan Peninsula	4374
9	2005	Achanakamar - Amarkantak	Chhatisgarh, Madhya Pradesh	Semi-Arid	3835
10	1989	Manas	Assam	East Himalayas	2837
11	2000	Kanchanjunga	Sikkim	East Himalayas	2620
12	2001	Agasthyamalai	Kerala	Western ghats	1701
13	1989	Great Nicobar	Andaman and Nicobar Islands	Islands	885
14	1988	Nokrek	Meghalaya	East Himalayas	820
15	1997	Dibru-Saikhowa	Assam	East Himalayas	765
16	2009	Cold Desert	Himachal Pradesh	West Himalayas	NA
17	2010	Sheshachalam Hills	The hill ranges spread in parts of Chittoor and Kadapa districts of Andhra Pradesh have been designated as Seshachalam Biosphere Reserve in Andhra Pradesh on 20th September, 2010.	Eastern Ghats	4755
18	2011	Panna Biosphere Reserve	Part of Panna and Chhattarpur districts in Madhya Pradesh	NA	

## HISTORY OF THE BIOSPHERE CONCEPT

The term "biosphere" originated with the geologist Eduard Suess in 1875, who defined it as "the place on earth's surface where life dwells". Vladimir I. Vernadsky first defined the biosphere in a form resembling its current ecological usage in his long-overlooked book of the same title, originally published in 1926. It is Vernadsky's work that redefined ecology as the science of the biosphere and placed the biosphere concept in its current central position in earth systems science.

## SELECTION CRITERIA OF BIOSPHERE RESERVES

The concept of Biosphere Reserves, especially its zonation, into Core Area(s) (dedicated to conservation), Buffer Area(s) (sustainable use) and Transition Area(s) (equitable sharing of benefits) were later broadly adopted under the Convention on Biological Diversity (CBD) process which entered into force on 29th December, 1993.

### Primary Criteria

- A site that must contain an effectively protected and minimally disturbed core area of value of nature conservation and should include additional land and water suitable for research and demonstration of sustainable methods of research and management.
- The core area should be typical of a biogeographical unit and large enough to sustain viable populations representing all trophic levels in the ecosystem.

### Secondary Criteria

- Areas having rare and endangered species
- Areas having diversity of soil and micro-climatic conditions and indigenous varieties of biota.
- Areas potential for preservation of traditional tribal or rural modes of living for harmonious use of environment.

### Creation of Biosphere Reserve

In order to be designated a biosphere reserve, a candidate ecosystem must be

nominated by a national government and approved by the UNESCO's Man and Biosphere Programme. In order to satisfy UNESCO's program requirements, each biosphere reserve must contain three elements:

**Core Areas:** These areas are securely protected sites for conserving biological diversity, monitoring minimally disturbed ecosystems, and undertaking non-destructive research and other low-impact uses (such as education).

**Buffer Zones:** These areas must be clearly identified, and usually surround or adjoin the Core Areas. Buffer Zones may be used for cooperative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism and applied and basic research.

**Transition, or Cooperation, Zones:** These areas may contain towns, farms, fisheries, and other human activities and are the areas where local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests, and other stakeholders work together to manage and sustainably develop the area's resources.

### Number of Biosphere Reserves in India

There are 18 notified Biosphere reserves in India. As of now, only Eight viz. Nilgiri (2000), Gulf of Mannar (2001), Sunderban (2001), Nanda Devi (2004), Nokrek (2009), Pachmarhi (2009), Similipal (2009) and Achanakmar-Amarkantak Biosphere Reserve (2012) are in the UNESCO's MAB world network.

### Why Biosphere Reserves?

It appears that the Biosphere reserves mean the duplication of the conservation efforts of the protected areas, but it is not so. The idea is the "Biosphere Reserves" is to strengthen the "National Efforts" in conformity to the "International Practices". The basic truth is that "most of the National parks in India were previously hunting grounds. Most of the wildlife sanctuaries are declared by the state governments out of a vague idea of protecting a particular species". The present domestic legislations don't represent a "systematic selection of the ecosystems". Neither the wildlife

sanctuaries nor the national parks focus on conservation of

- Plant species
- Invertebrates
- Biotic community as a whole.

*This is the major shortcoming of the present system. Further*

- The focus of WS/NP is on conservation of mammals. No focus to the other species which may be ecologically more vital.
- The focus of the MAB and Biosphere Reserves is to protect the "threatened Habitats" and not "a particular threatened species".
- Through an Internationally recognized mechanism, the Research and Monitoring of the existing protected areas can be carried out on regular basis.

### **Legislation Framework around Biosphere Reserves**

There is no comprehensive legislation in India dealing with all aspects of the Biosphere Reserves.

### **How a Biosphere Reserve is declared?**

- Department of Environment is nodal agency for Biosphere Reserve programmes. It carries out detailed scientific investigation, maps the biogeographical regions and vegetation types, identified the critical areas. Botanical Survey of India and Zoological Survey of India assist in this work.
- Area is demarcated. The Biosphere Reserve is declared by a notification by the Central and State Governments.
- The central Government assumes the responsibility of meeting the costs of set up while the state government would set up desired machinery.

### **Role of Wildlife Protection Act in Biosphere Reserves**

The wildlife protection act is complementary to the set up of Biosphere Reserves to the extent that it has considerable flexibility and latitude

to establish such reserves. It does not define a Biosphere Reserve. The local / state government may enact a fresh legislation if it needs so. The area is proposed to UNESCO's MAB which when accepts the proposal, is entered in the list of network of biosphere reserves.

### **NATIONAL PARKS**

National parks in India are IUCN category II protected areas. India's first national park was established in 1936 as Hailey National Park, now known as Jim Corbett National Park. By 1970, India only had five national parks. In 1972, India enacted the Wildlife Protection Act and Project Tiger to safeguard the habitats of conservation reliant species. Further federal legislation strengthening protections for wildlife was introduced in the 1980s. As of April 2012, there were 104 national parks. All national park lands then encompassed a total 39,919 km<sup>2</sup> (15,413 sq mi) km<sup>2</sup>, comprising 1.21% of India's total surface area.

A total of 166 national parks have been authorized. Plans are underway to establish the remaining scheduled parks. All of India's national parks are listed below alongside their home state or territory, area and the date that they were established.

### **Corbett National Park, Uttarakhand**

Among all the national parks in India, the Corbett National Park is the oldest and one of the best among the top 10 national parks in India. It was established in 1936 to protect the imposing Bengal Tigers. Located at the foothills of the Himalayan range of Uttarakhand, Corbett National Park is one of the hot spots of the wildlife lovers.

This park has been named after the popular wildlife story writer Jim Corbett. Beauty and wilderness of this park attracts enthusiasts from various parts of the globe. This wildlife tourist destination of India has also been featured in many wildlife documentaries in order to raise the awareness towards the mighty and stunning Bengal Tigers.

### **Kaziranga National Park, Assam**

Kaziranga National Park is the only natural habitat of the endangered One-Horned Rhinos

in India as well as in the world. Located in the Golaghat district of Assam, Kaziranga National Park is one of the largest wildlife sanctuaries to explore the wildlife of Northeast India. It is also a highly visited park among the top 10 national parks in India.

This park also boasts of its number of tigers and other wildlife species. Due to the noteworthy number of tigers, Kaziranga National Park has been declared as Tiger Reserve Forest in 2006. Other wildlife consists Elephants, Wild Buffaloes and Swamp Deer. The park also witnesses a large

number of migratory birds during the winters.

### **Bandipur National Park, Karnataka**

The Bandipur National Park is the most popular among all the national parks in South India. It is a natural home to Elephants and several other endangered species. Lush forest of the Deccan Plateau and the Western Ghats makes this park one of the beautiful parks in India. [Go for Bandipur Wildlife Safari] The park is located 80 km away from Mysore and almost 215 km away from Bangalore.

## **SOME IMPORTANT NATIONAL PARKS OF INDIA**

<b>S.N.</b>	<b>Name and Location</b>	<b>Area in Sq. Km.</b>	<b>Important Animals Found</b>
1.	Kaziranga National Park District Sibsagar (Assam)	430	Rhinoceros, elephant, wild buffalo, bison, tiger, leopard, sloth, bear, sambhar, swamp deer, barking deer, wild bear, gibbon, python and birds like pelican, stork and ringtailed finishing eagles. This is a famous National Park of famous one homed rhinoceros of India.
2.	Sunderbans (Tiger Reserve) 24 - Pargana (West Bengal)	2585	Tiger, wild boar, deer, gangetic dolphin, estuarine crocodile.
3.	Hazaribagh National Park Hazaribagh Jharkhand	186	Tiger, leopard, hyaena, wild bear, gaur, sambhar, nilgai, chital, sloth, bear, peafowl
4.	Corbett National Park Nainital (Uttarakhan)	525	Tiger. Elephant, panther, sloth bear, wild bear, nilgai, sambhar, chital, crocodile, python, king cobra, peafowl, partridge. This is the first national Park of India which is famous for Tigers.
5.	Gir National Park Junagarh (Gujarat)	1412	Asiatic lion, panther, striped hyaena, sambhar, nilgai, chital, 4-homed antelope, chinkara, wild bear, langur, python crocodile, green pigeon, partridge. This National park is famous for the Asiatic lions.
6.	Kanha National Park Mandla & Balaghat (M.P.)	940	Tiger, panther, chital, chinkara, barking deer, blueing bull, four horned deer, langur, wild bear, black buck, nilgai, wild dog, sloth bear, sambhar, crocodile, grey hombill, egret, pea-fowl.
7.	Tandoba National Park Chandrapur (Maharashtra)	116	Tiger sambhar, sloth bear, bison, chital chinkara, barking deer, blue bull, four homed deer, langur, pea-fowl, crocodile.
8.	Bandipur National Park Mysore (Karnataka)	874	Elephant, tiger, leopard, sloth bear, wild dog, chital, panther, barking deer, langur, porcupine, gaur, sambhar, Malabar squirrel, green pigeon
9.	Desert National Park	3000	Great Indian Bustard, Black buck, Chinkara

### Bandhavgarh National Park, Madhya Pradesh

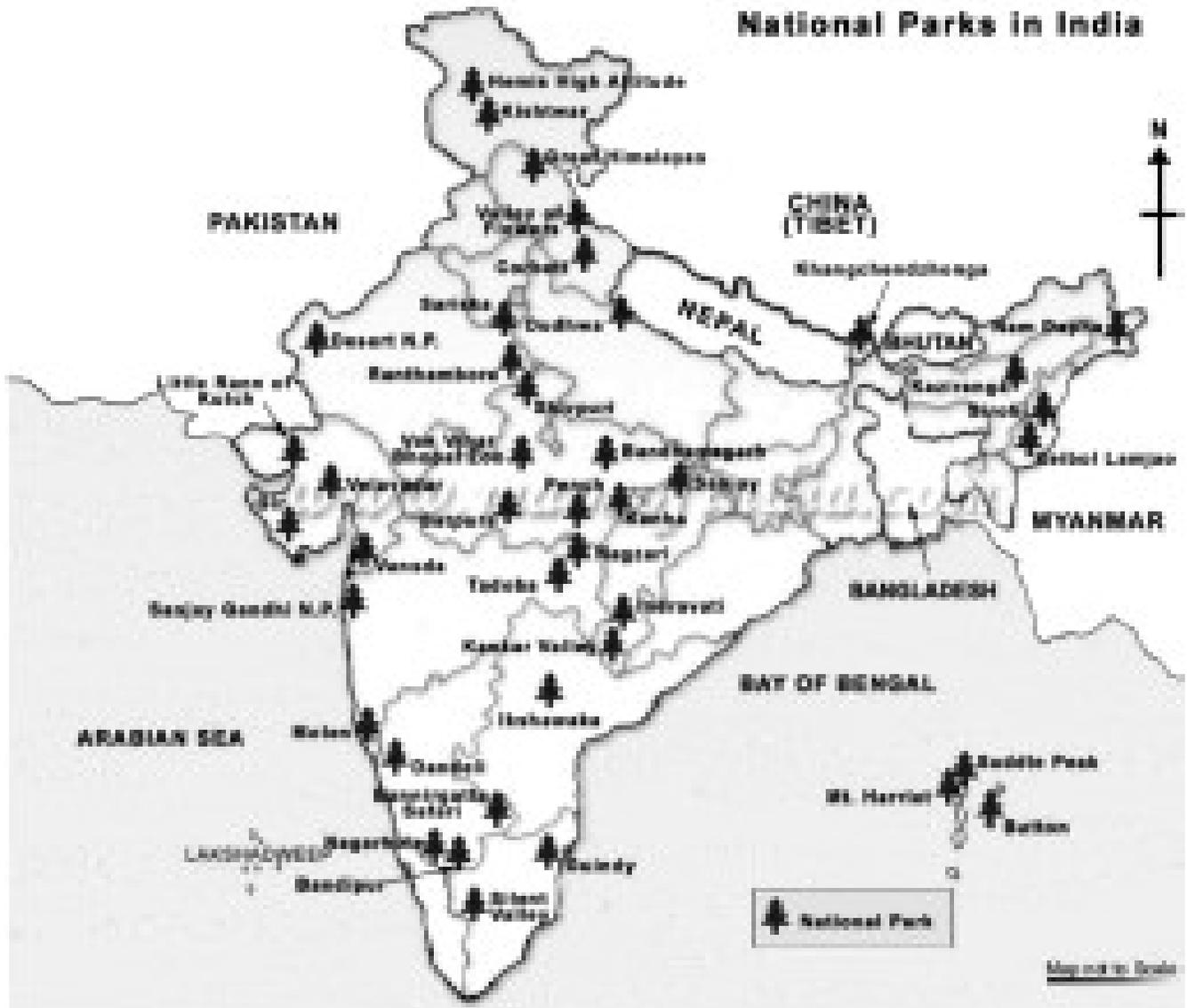
The Bandhavgarh National Park is another enticing name in the list of national parks of India. Located in the Umaria district of Madhya Pradesh, it is one of the largest national parks of Madhya Pradesh. Declared as a national park in 1968, this park has a noteworthy number of Tigers in India. [Go for thrilling Bandhavgarh wildlife and Tiger Trail Safari]

This park also has a significant number of Leopards and Deer. Among all the attractions of Bandhavgarh National Park, White Tigers are the most spectacular.

### Kanha National Park, Madhya Pradesh

Kanha National Park is another sought after destination in the list of national parks of Madhya Pradesh. Established in the year 1955, this park has gained a lot of attention due to its efforts in saving the rare and almost extinct species of the Swamp Deer, also known as 'Barasingha'. It is also one of the well-maintained parks in Asia.

The other feature of the Kanha National Park is its sunset point called Bamni Dadar. Almost the entire park can be seen from this point. It offers the most eye-catching views of the animals in their natural habitat.



### **Gir National Park and Sasan Gir Sanctuary, Gujarat**

The Gir National Park and the Sasan Gir Sanctuary of Gujarat are the only wildlife sanctuaries in India that have Asiatic Lions. October-June is the ideal time to visit the place and watch these majestic beasts strolling in their territories.

The park was established on 18th September 1965 and it is one of the largest and elegantly preserved areas for the Asiatic Lions. Rivers and streams flowing through this national park remain occupied by the dwellers of the park.

### **Keoladeo Ghana National Park – Bharatpur, Rajasthan**

Keoladeo Ghana National Park is one of the man-made wetlands in India that has been declared as a National Park. It was formerly called as 'Bharatpur Bird Sanctuary'. This park hosts a large number of avifauna during the summers and is considered as one of the best national parks to observe exotic migratory birds and other birds of India. Located in Bharatpur district of Rajasthan, this park serves as a primary centre for ornithologists and other zoological studies.

### **Periyar National Park, Kerala**

The Periyar National Park, Kerala is the only national park in South India as well as in India that has an artificial lake flowing through the forests. [Explore wilderness of Kerala] Located on the evergreen hills of the Western Ghats, this wildlife sanctuary is also one of the Tiger Reserve Forests in India.

While boating in the Periyar Lake, visitors can behold the mighty beasts of this park, quenching their thirsts on the lakesides. Elephants, Deer, Nilgiri Tahrs and Langurs are the other attractions of this park.

### **Pench National Park, Madhya Pradesh**

While visiting the Pench National Park in Madhya Pradesh, the childhood fantasy of most of the visitors will turn into reality. Rudyard Kipling's 'The Jungle Book' is based on the natural surroundings of this national park; this park is also known as 'Mowgli Land'.

While Tigers are the most dominant species of this park, Leopards, Sloth Bear, Wild Dog, Barking Deer are some of the other attractions. With more than 170 species of birds, this park has also become one of the best places for birdwatchers.

### **Ranthambore National Park, Rajasthan**

The Ranthambore National Park, Rajasthan, is one of the royal national parks in India. It is ranked as one of the top 10 wildlife sanctuaries in India. The majestic Tigers are the pride of this national park. Surrounded by the Banas and Chambal River, this park serves as an ideal habitat for the predators and other animals of this park. Leopard, Nilgai, Wild Boar, Sambar and Hyena are some of the major animals found in this park. Tiger Safaris are immensely popular among the visitors of Ranthambore National Park.

### **Manas National Park, Assam**

Considered as one of the youngest names in the list of National Parks in India, the Manas National Park or Manas Wildlife Sanctuary, Assam has a large number of rare and endangered species. Assam Roofed Turtle, Hispid Hare, Golden Langur and Pygmy Hog are some of the most endangered species of this park.

This park boasts of its 55 species of mammals, 380 species of birds and a substantial number of reptiles and amphibians. Asian Elephant, Indian Rhinoceros, Water Buffaloes, Leopard and Assamese Macaques are the other dwellers of this park. It is also one of the popular destinations for river rafting.

### **Nagarhole National Park, Karnataka**

Nagarhole National Park is located in Mysore district of Karnataka and is a popular destination for Tiger spotting. It is also known as 'Rajiv Gandhi National Park'. With quite a large number of Tigers, this park also has a significant number of Indian Bison, Leopard, Sloth Bear and Elephant.

Forests of this park are extremely rich with several species of high commercial valued trees. Teak, Sandalwood and Silver Oak are the major

trees found in this park. Along with the endangered Mugger Crocodile, this park also has more than 250 species of birds, 96 species of Dung Beetles and 60 species of Ants.

### **Sunderbans National Park**

Sunderbans National Park is one of the largest and oldest in India. Located in the deltaic region of India, this park also shares its boundaries with Bangladesh. Covered with mangrove forests, Sundarbans is the original abode of the stunning Royal Bengal Tigers.

It has the highest number of Bengal Tigers than any other parks in the world. Salt-Water Crocodile can also be found in this park. Sundarbans is extremely rich in avifauna, aqua fauna and reptiles. Some of the other endangered species in this park are Gangetic Dolphin, River Terrapin, Hawks Bill Turtle and Mangrove Horseshoe Crab.

### **Sariska National Park, Rajasthan**

Sariska National Park is located in the Alwar district of Rajasthan. Though it was declared as a Wildlife Reserve in 1955, due to the large number of Tigers within this park, it was later declared as one of the Tiger Reserve Forests in 1978.

Sariska National Park was the first national park in the world, which was successfully adapted by the majestic Royal Bengal Tigers as their natural habitat. Leopard, Jungle Cat, Stripped Hyena and Golden Jackal are also found in this national park.



### **Dudhwa National Park, Uttar Pradesh**

The Dudhwa National Park, a part of Dudhwa Tiger Reserve, is situated in Uttar Pradesh. History of this park lies back into 1958, when it was declared as a wildlife sanctuary for Swamp Deer. Later, in 1978, it was declared as a Tiger Reserve due to its large number of tigers.

### **Panna National Park, Madhya Pradesh**

Panna National Park is one of the best maintained National Parks of India. Declared as a Tiger Reserve Forest of India in 1994, this park suffered a heavy downfall in the number of Tigers due to poaching.

Among other animals found in this park, Chital, Chinkara, Sambhar and Sloth Bear are found abundantly in this park. Bar-headed Goose and King Vultures are the most commonly found birds among the 200 species of its avifauna.

### **Tadoba Andhari Tiger Reserve, Maharashtra**

Tadoba Andhari Tiger Project, a Tiger Reserve in Chandrapur district of Maharashtra is the oldest and the largest National Park in Maharashtra. Bengal Tigers, Leopards, Stripped Hyena and Jungle Cats are some of the commonly found carnivores of this park. Sloth Bears, Gaur, Nilgai and Spotted Deer are the herbivores.

Forests of this park always bear the green colour due to the geographical topography of the park's location. Axle-wood, a fire-resistant species of trees can be commonly found in this park. Among the other species, Black Plum, Arjun and Palas are dominant.

### **Chinnar Wildlife Sanctuary, Kerala**

After the Periyar National Park, Chinnar Wildlife Sanctuary is one of the largest wildlife sanctuaries in Kerala. This sanctuary is located on the Western Ghats and shares its border with Tamil Nadu on the Annamalai Hills. Among the 34 species of mammals found in this sanctuary, Panthers, Spotted Deer, Indian Elephant, Tiger and Nilgiri Tahr are the most spectacular.

It is also the dwelling of Mugger Crocodiles and more than 240 species of exotic birds. The

## NATIONALS PARK

State/UT	National Park	Established
Andaman and Nicobar	Campbell Bay National Park	1992
Andaman and Nicobar	Galathea National Park	1992
Andaman and Nicobar	Mahatma Gandhi Marine National Park (previously : Wandur National Park)	1983
Andaman and Nicobar	Middle Button Island National Park	1987
Andaman and Nicobar	Mount Harriet National Park	1987
Andaman and Nicobar	North Button Island National Park	1987
Andaman and Nicobar	Rani Jhansi Marine National Park	1996
Andaman and Nicobar	Saddle Peak National Park	1987
Andaman and Nicobar	South Button Island National Park	1987
Andhra Pradesh	Kasu Brahmananda Reddy National Park	1994
Andhra Pradesh	Mahavir Harina Vanasthali National Park	1994
Andhra Pradesh	Mrugavani National Park	1994
Andhra Pradesh	Sri Venkateswara National Park	1989
Arunachal Pradesh	Mouling National Park	1986
Arunachal Pradesh	Namdapha National Park	1983
Assam	Dibru-Saikhowa National Park	1999
Assam	Kaziranga National Park	1974
Assam	Manas National Park	1990
Assam	Nameri National Park	1998
Assam	Orang National Park	1999
Bihar	Valmiki National Park	1989
Bihar	Kanwar Lake Bird Sanctuary	1987
Bihar	Vikramshila Gangetic Dolphin Sanctuary	2009
Chhattisgarh	Indravati National Park	1981
Chhattisgarh	Kanger Ghati National Park (Kanger Valley)	1982
Chhattisgarh	Sanjay National Park	1981
Goa	Mollem National Park	1978
Gujarat	Vansda National Park	1979
Gujarat	Blackbuck National Park, Velavadar	1976
Gujarat	Gir National Park	1965
Gujarat	Gulf of Kachchh Marine National Park	1980
Haryana	Kalesar National Park	2003
Haryana	Sultanpur National Park	1989
Himachal Pradesh	Great Himalayan National Park	1984
Himachal Pradesh	Pin Valley National Park	1987
Jammu and Kashmir	Dachigam National Park	1981
Jammu and Kashmir	Hemis National Park	1981

Jammu and Kashmir	Kishtwar National Park	1981
Jammu and Kashmir	Salim Ali National Park	1992
Jharkhand	Betla National Park	1986
Jharkhand	Hazaribag National Park	1954
Jharkhand	Dimna National Park	1975
Karnataka	Anshi National Park	1987
Karnataka	Bandipur National Park	1974
Karnataka	Bannerghatta National Park	1974
Karnataka	Kudremukh National Park	1987
Karnataka	Rajiv Gandhi National Park (prev: Nagarhole National Park)	1988
Kerala	Eravikulam National Park	1978
Kerala	Mathikettan Shola National Park	2003
Kerala	Periyar National Park	1982
Kerala	Silent Valley National Park	1984
Madhya Pradesh	Bandhavgarh National Park	1982
Madhya Pradesh	Fossil National Park	1983
Madhya Pradesh	Kanha National Park	1955
Madhya Pradesh	Madhav National Park	1959
Madhya Pradesh	Panna National Park	1973
Madhya Pradesh	Pench National Park, Madhya Pradesh	1975
Madhya Pradesh	Sanjay National Park	1981
Madhya Pradesh	Satpura National Park	1981
Madhya Pradesh	Van Vihar National Park	1979
Maharashtra	Chandoli National Park	2004
Maharashtra	Gugamal National Park	1987
Maharashtra	Navegaon National Park	1975
Maharashtra	Pench National Park	1975
Maharashtra	Sanjay Gandhi National Park a.k.a. Borivili National Park, Mumbai	1983
Maharashtra	Tadoba National Park	1955
Manipur	Keibul Lamjao National Park	1977
Manipur	Sirohi National Park	1982
Meghalaya	Balphakram National Park	1986
Meghalaya	Nokrek National Park	1986
Mizoram	Murlen National Park	1991
Mizoram	Phawngpui Blue Mountain National Park	1997
Nagaland	Ntangki National Park	1993
Orissa	Bhitarkanika National Park	1988
Orissa	Nandankanan National Park	1976
Orissa	Simlipal National Park	1980

Punjab	Harike Wetland	1987
Rajasthan	Darrah National Park	2004
Rajasthan	Desert National Park	1980
Rajasthan	Keoladeo National Park	1981
Rajasthan	Mount Abu Wildlife Sanctuary	1960
Rajasthan	Ranthambore National Park	1980
Rajasthan	Sariska National Park	1982
Sikkim	Khangchendzonga National Park	1977
Tamil Nadu	Guindy National Park	1976
Tamil Nadu	Gulf of Mannar Marine National Park	1980
Tamil Nadu	Indira Gandhi National Park	1989
	(prev: Annamalai National Park)	
Tamil Nadu	Mudumalai National Park	1990
Tamil Nadu	Mukurthi National Park	1990
Tamil Nadu	Palani Hills National Park	Proposed
Uttar Pradesh	Dudhwa National Park	1977
Uttarakhand	Corbett National Park	1936
Uttarakhand	Gangotri National Park	1989
Uttarakhand	Govind Pashu Vihar	1990
Uttarakhand	Nanda Devi National Park	1982
Uttarakhand	Rajaji National Park	1983
Uttarakhand	Valley of Flowers National Park	1982
West Bengal	Buxa Tiger Reserve	1992
West Bengal	Gorumara National Park	1994
West Bengal	Neora Valley National Park	1986
West Bengal	Singalila National Park	1992
West Bengal	Sundarbans National Park	1984

presence of Thoovanam Waterfalls within the forests has made this sanctuary, one of the popular trekking and camping destinations in Kerala.

### **The Great Himalayan National Park, Himachal Pradesh**

The Great Himalayan National Park lies among the lush coniferous forests of and the snow-capped mountain peaks Kullu, Himachal Pradesh. It is one of the high altitude national parks in India. While the location of this park is itself a stunning feature, the emerald meadows in some portions of the park makes it one of the stunning parks in India.

Snow Leopard, Himalayan Brown Bear, Blue Sheep, Musk Deer and Himalayan Thar are the commonly found animals in this park. It also houses 181 species of birds, and many more species of reptiles, annelids, amphibians and insects.

### **Dandeli Wildlife Sanctuary, Karnataka**

Dandeli Wildlife Sanctuary is the second largest wildlife sanctuary in Karnataka. Located on the banks of the Kali River, it is one of the highly visited wildlife sanctuaries in India. Black Panther, Flying Squirrel, Tiger, Elephant and Leopard can be easily spotted in this sanctuary. [Check out Dandeli Adventure]

Among the wide range of amphibians, Crocodiles are the major attraction of this sanctuary. It is also an ideal place for river rafting, trekking, Bird watching, Tiger and Crocodile spotting.

### **WILDLIFE SANCTUARIES**

A wildlife sanctuary is a place of refuge where abused, injured and abandoned captive wildlife may live in peace and dignity for the remainder of their lives.

True wildlife sanctuaries do not breed or exploit for commercial activities (including, but not limited to: use of animals for entertainment or sport, sale or trade of animals, their offspring or animal parts and by-products.)

A true sanctuary respects the integrity of individual animals, providing safe, healthy and secure refuge in enclosures specifically designed for the unique animal which it supports.

Experts estimate that there are about 1,200 exotic animal facilities which provide the barest minimum of care for thousands of animals with little or no knowledge of animals' nutritional or behavioral needs. These facilities often breed animals to provide cute babies as an attraction for public display and for sale, and many depend on public sale of "treats" for the animals as the major source of food.

These facilities often function as the end-of-the-line for surplus animals who can no longer earn dollars for mainstream zoos, circuses, traveling shows and exotic pets. They often call themselves "sanctuaries" while they



Differentiating National Parks, Wildlife Sanctuaries & Biosphere Reserves National Parks and Wild Life sanctuaries come under the category called "Protected Areas". The Protected Areas are declared under Wildlife (Protection) Act, 1972. The Wildlife (Protection) Act, 1972 provides for 4 types of protected areas viz. Wild Life Sanctuaries, National Parks, Conservation Reserves and Community Reserves. The difference between a national park and a sanctuary is that no human activity is allowed inside a national park, while limited activities are permitted within the sanctuary. In Biosphere Reserve, limited economic activity (sand and stone mining) is permitted.

continue to breed and exploit the animals in their care. "Pseudo-sanctuaries" are really a part of the animal industry but attempt to cover themselves with the positive "sanctuary" label, using their animals as fund-raising tools with appearances on television shows to plead for funds or displaying them for photo sessions at shopping malls and fund-raising events.

At PAWS, rescued animals live in peaceful and natural habitats, free from fear, chains and harsh confinement. Individually designed enclosures encourage natural behavior and dedicated keeping staff monitor the animals 24/7, 365 days a year.

No true sanctuary should be involved in breeding or commercial exploitation of the animals in its care. PAWS' animals are not bred, traded, sold, rented or forced to perform. With the exception of a limited number of planned educational and fundraising events held annually, PAWS' facilities are not open to the public.

The Indian subcontinent is a vast land of varied geographical areas and varied climatic regions which serves as a natural home to a wide numbers of flora and fauna. There are over 442 wildlife sanctuaries in India. They are the natural occurring sanctuary or protect areas for animals. These are of national importance to conservation as many of them hosts some of the rarest and endangered animal and bird. They



are among the best tourist places in the world. Each of the wildlife sanctuary attracts thousands of visitors every year. Here is the top 10 best wildlife sanctuary in India.

### **Parambikulam Wildlife Sanctuary- Kerala**

An important Tiger reserve located in Palakkad district of Kerala, the Parambikulam wildlife sanctuary is a memorable place for anyone who visits here. This is a place of rich diversity of animals and birds. Among the others the lion-tailed macaques, elephants, wild boars, sloth bears, and gaur are mostly seen here. Among the birds, the grey-headed fish-eagle, darter, great pied hornbill are some of the prominent members. It also hosts many reptiles and variety of fishes. This place is sometimes revered as 'Nature's own abode'. This is a good place if you want to be in the lap of Mother Nature and gain treasured memories of animal sighting.

### **Kumarakom Bird Sanctuary- Kerala**

Known as the paradise of Ornithologist's and a favorite haunt for migratory birds, this bird sanctuary is the best place you can think of if you happen to be a bird lover. This is located on the banks of Vembanad Lake in Kottayam district. Its neighbor places like kaipuzha Muttu, Thollairam Kayal, Narakathara are also good for bird watching. Birds like cuckoo, heron, darter, and waterfowl are some of the main attraction here. Among the migrators, the Siberian Crane and parrot offers good views to the watchers. Dawn is the best time to watch the birds and early morning is recommended for avid bird watchers.

### **Govind Wildlife Sanctuary- Uttarakhand**

This amazing sanctuary is situated in greater part of the Tons River, near Uttarkashi in Uttarakhand-the 'Land of the Gods'. It offers great view to the visitors. This sanctuary hosts wildlife's like black bear, leopard, Himalayan tahr and musk deer. The birds include tragopan, golden eagle, snowcock, cuckoos and finches. If you are lucky enough you may get the view of the elusive snow leopard sometime. Its lush greenish beauty with the snow clad peaks and glaciers are a major tourist attraction.

### **Tal Chhapar Sanctuary- Rajasthan**

This lovely sanctuary is known as a refuge to the Black bucks. This place is located in Churu district of northwest Rajasthan and is a home to many birds. During September to March many migratory birds like harriers, little green bee-eaters, tawny eagle, and sparrow passes through it. Birds like skylark, ring dove and Blue Jay are permanent here. Desert fox, Black naped hare and desert cats are also spotted frequently. This is a place for the bird watcher to give their dream a reality.

### **Aralam Wildlife Sanctuary - Kerala**

The northernmost wildlife sanctuary of India, Aralam sanctuary is another major tourist attraction. This is a common place for the Western Ghats animals like deer, boar, bison, leopard and squirrels. Among others it hosts some of the threatened species of birds including the Nilgiri wood pigeon, Great Pied Hornbill, Blue-winged parakeet, Malabar Pied Hornbill and Ceylon Frogmouth to name a few.

### **Indian Wild Ass Sanctuary- Gujarat**

The largest wildlife sanctuary of India and the only home on earth for the endangered Indian Wild Ass, this great sanctuary has many things to offer the visitors. Located in Little Rann, it hosts jackals, desert fox, blackbucks, and striped hyenas among many others. It is also a great place for birds to feed and breed. its annual nesting goes up to 75,000. The sessional guest includes Ceraneous vulture from Egypt, cranes from Siberia and Houbara Bustard of Iran.

### Wayanad Wildlife Sanctuary- Kerala

Located around 16 km east of the town Sulthan Bathery, it is the second largest wildlife of Kerala. Wayanad is a home to variety of wild animals like tiger, deer, elephant and bison. Among the birds, the peacock woodpeckers, owls and jungle fowls are mainly seen here. You can frequently see a herd of elephants here.

### Mudumalai National Park and Wildlife Sanctuary- Tamil Nadu

A tiger reserve and an important wildlife habitat which is surrounded by other protected areas, Mudumalai is a great tourist attraction. It is a habitat to some of the rarest species on earth like Bengal tiger and Indian elephant. You can expect animals like the gray langur,

## SOME IMPORTANT SANCTUARIES OF INDIA

S.N.	Name and Location	Area in Sq.Km.	Important Animals
1.	Keoladeo Ghana Bird Sanctuary Bharatpur (Rajasthan) Famous for Birds	29	Siberian crane, egrets, herons spoon bill etc.
2.	Annamali Sanctuary Coimbatore (Tamil Nadu)	958	Tiger, Elephant, gaur, spotted deer, wild dog, sloth bear sambhar, panther.
3.	Jaldapara Sanctuary	1155	Rhino, elephant, tiger, leopard, deer, sambhar and differed kinds of birds
4.	Sultanpur Lake Bird Sanctuary Gurgaon (Haryana)	12	Crane, sarus, spotbill, duck, drake, green pigeon, wild ber crocodile, python. The Gresemi-aric
5.	Bir Moti Bagh Wildlife Sanctuary	8.3	Nilgai, wild boar, hog deer, black buck, blue bull, jackal peafowl, partridge, sparrow, myna, pigeon, dove.
6.	Shikari Devi Sancturay Mandi (Himachal Pradesh)	213	Black bear, snow leopard, flying fox, barking deer, mui deer, chakor, partridge.
7.	Dachigam Sanctuary Srinagar (Jammu & Kashmir)	89	Hangul or Kashmir stag, musk deer, snow leopard, black bear, brown bear
8.	Mudumalai Wildlife Sanctuary Nilgiri (Tamil Nadu)	520	Elephant, gaur, sambhar, chital, barking deer, mouse deer, four homed antelope, langur, giant squirrel, flying squin4 wild dog, wild cat, civet, sloth bear, porcupine, python, rat, snake, monitor lizard, flying lizard.
9.	Nagajuna Sagar Sanctuary - Guntur Kumool and Nalgonda (Andhra Pradesh)	3568	Tiger, panther, wild bear, chital, nilgai, sambhar, black buck fox, jackal, wolf, crocodile.
10.	Periyar Sanctuary (Kerala)	777	Elephants, gaur, leopard, xloth bear, sambhar, bison, black langur, hambill, egret. It is famous for elephants.
11.	Chilka Lake Bird Sanctuary Balagaon (Orissa) (Largest brackish water lagoon in Asia)	900	An oasis of bir is like water fowls, ducks, cranes, Goloa plovers, sand pipers, flamingoes.
12.	Manas Wildlife Sanctuary Kamrup (Assam)		Tiger, Panther, rhino, gaur, wild buffalo, sambhar, swasi deer, golden langur, wild dog, wild bear.

Sambar deer, wild boar and birds like the threatened Black and orange Flycatcher, Emerald Dove, Jerdon's Baza to name a few. This is the highest density of tigers in India and hosts around 80 percent bird species occurring in India. There are many bonus attractions nearby.

### **Gir National Park & Wildlife Sanctuary- Gujarat**

Famously known as the only place you can find the Asiatic Lions, Gir Sanctuary is the place if you want to get the best out of your vacation. Considered to be one of the best protected areas, it is located in Junagadh and Amreli district. It is the jewel of Gujarat. You can find the Indian leopard, golden jackals, desert cats, sloth bears, blackbucks and many more rare species. It provides residences to birds like the endangered

Bonelli's eagle, black headed oriole and the crested serpent eagle to name a few.

### **Periyar National Park and Wildlife Sanctuary – Kerala**

The best of its kind, Periyar National Park and Wildlife Sanctuary of Kerala is the most famous sanctuary in India. Located in Kumily district in Kerala, in the middle of the Cardamom hills, it is a pride of Kerala. It is known for its elephants and tigers. This is the home of many threatened wilds like the Lion-tailed macaque, the Nilgiri langur, and bonnet macaque. It also hosts mammals like barking deer, gaur, sambar, dholes, mongoose, foxes, leopards, and of course the elusive Nilgiri tahr. Several birds like kingfishers, racket tailed drongos and darter adds to its attraction. You can also find the python and king cobra here.