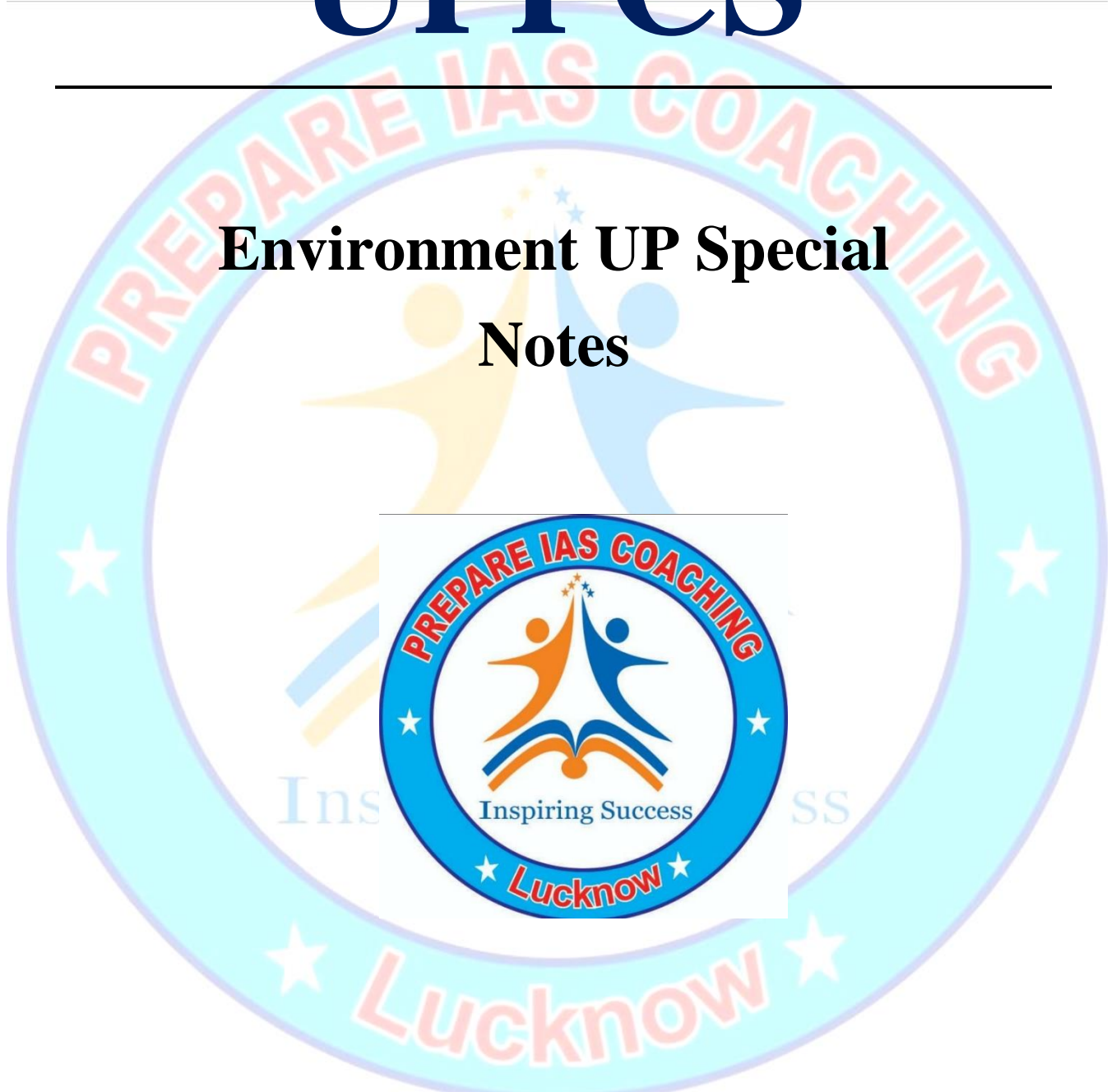

UPPCS

Environment UP Special Notes



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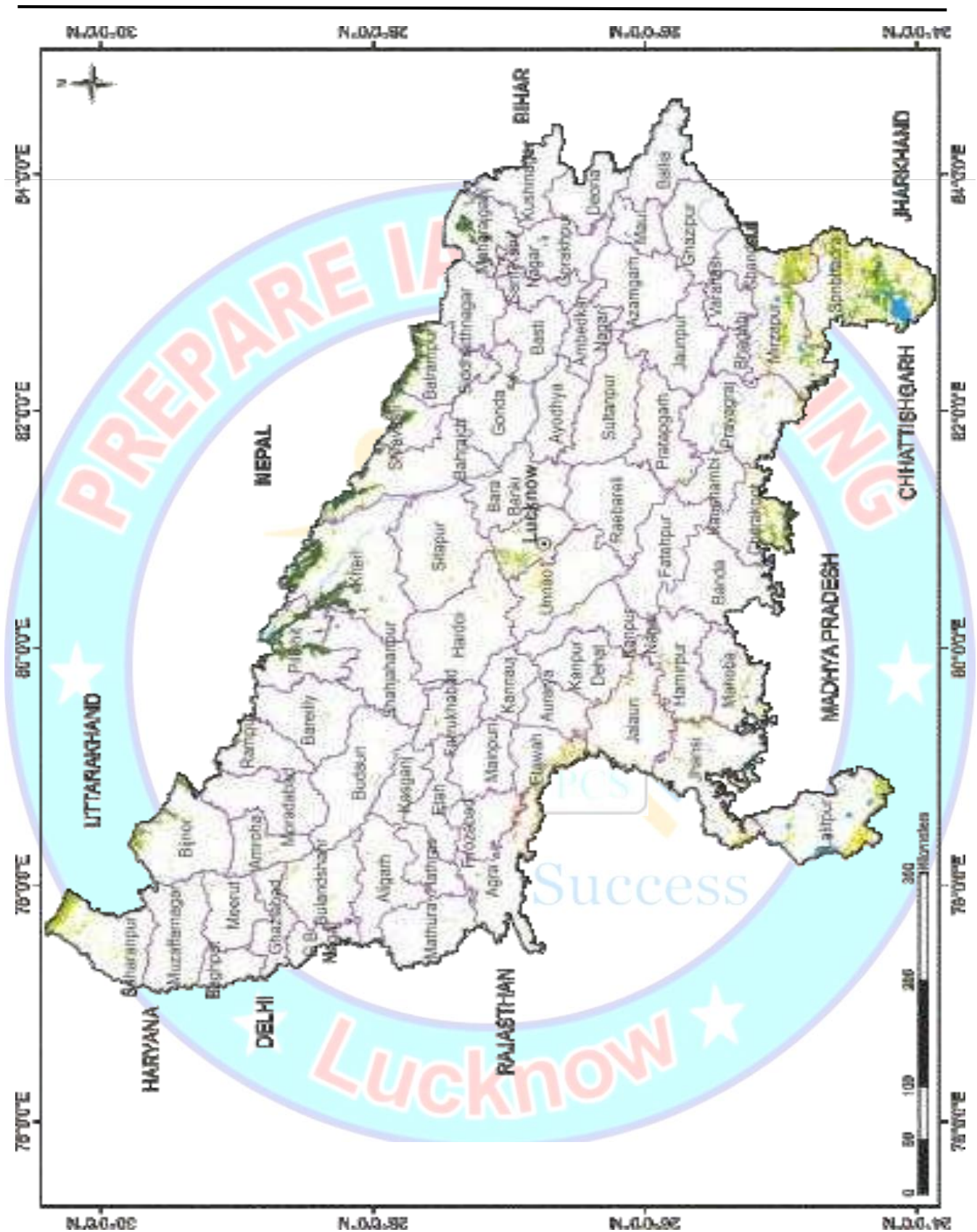
1. Natural Vegetation

According to National Forest Policy 1988, one-third of the total area of the country should be under forest or tree cover (33.33%) out of which 60% should be in the mountainous and hilly regions and 25% in the plains. In the mountain and hills region, the aim should be to maintain two-thirds of the area under such cover to prevent erosion and land degradation and to ensure the stability of the fragile ecosystem. (UPPCS Pre 2002, 2014)

Forest Area of Uttar Pradesh (Uttar Pradesh State Forest Report 2021)

- No. of districts under consideration is 71 of UP in case of ISFR, 2021 and no. of tribal district is 1 only.
- According to the 17th India State of Forest Report (ISFR)2021, the total forest cover area in the state is 14,817.89 sq km which is 6.15% of the area of state, the state has 2,626.61 sq km area under Very Dense Forest (VDF), 4,029.37 sq km area under Moderately Dense Forest (MDF) and 8161.91 sq km area under Open Forest (OF). Scrub vegetation is 563.38 sq km. There has been increase in forest cover by 12.24 sq km i.e. 0.08% as compared to ISFR 2019. (UPPCS M 2002, 2005)
- Forest cover inside the recorded forest area (or Green Wash) is 9143 sq km i.e., 3.8%. (UPPCS M 2012)
- Forest cover outside the recorded forest area (Green Wash) is 5675 sq km.
- There are 29 different types of forest found in UP as per the Champions & Seth classification (1968).
- The most prominent type is Northern Dry Mixed Deciduous Forest followed by Plantation and Western Light Alluvium plains Sal.
- 209.30 sq km of Total Forest Cover of UP is extremely prone to Fire.
- Extent of Trees Outside Forest (TOF) is 13096 sq km.
- The total Carbon Stock of forest in UP including the TOF patches which are more than 1 ha in size is 117.24 million tonnes (429.88 million tonnes of Carbon Dioxide equivalent) which is 1.63% of total forest Carbon of the country.

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(Forest Cover Map of Uttar Pradesh)

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Total Forest and Tree Cover: -

Category	Area (in sq km)
Tree Cover	7,421
Forest Cover	14,817.89
Total Forest and Tree Cover	22,238.89
Of State's Geographical Area	9.23%
Top 5 Districts in terms of Forest cover (total area wise)	Top 5 Districts in terms of Forest Cover (% of area wise)
1. Sonbhadra (2436.75 sq km)	1. Sonbhadra (35.29%)
2. Lakhimpur Khiri (1272.36 sq km)	2. Chandauli (21.78%)
3. Mirzapur (711.46 sq km)	3. Chitrakut (19.64%)
4. Pilibhit(685.73 sq km)	4. Pilibhit (18.60%)
5. Chitrakut (631.69 sq km)	5. Shravasti (17.40%)

Bottom 5 Districts (total area wise forest cover)	Bottom 5 Districts (% of area wise forest cover)
1. Bhadohi (3.71 sq km)	1. Bhadohi (0.37%)
2. Mau (11.00 sq km)	2. Mainpuri (0.49%)
3. Mainpuri (13.64 sq km)	3. Deoria (.60%)
4. Sant Kabir Nagar (14.40 sq km)	4. Badaun (0.62%)
5. Deoria (15.21 sq km)	5. Mau (0.64%)

Classification of Forests in Uttar Pradesh: Forests of Uttar Pradesh are classified into two categories in the state such as:

- **Administrative Classification of Forests:** These forests are classified into six groups:

Reserved Forest	These forests are under the direct control of the State Government. No public entry is allowed for collection of timber or grazing of cattle in these forests.
Protected Forests	These forests are looked after by the government, but the local people are allowed to collect fuel-wood, timber and graze their cattle without causing serious damage to these forests.
Unclassed Forests	These forests are those in which there is no restriction on the cutting of trees and grazing of cattle.
State Forests	These forests are those which are completely conserved and controlled by the State Government.
Community Forests	These are those forests which are managed and controlled by local bodies like District Councils, Municipal Corporation, Municipalities or Panchayats.
Private Forests	These are those forests which are controlled by individual or some individuals.

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- **Classification on the Basis of Specific Characteristics:** Based on the relief, rainfall and vegetation types, the forests of Uttar Pradesh are divided into three types:

Tropical Moist Deciduous Forests	<ul style="list-style-type: none"> • These forests are found in the areas receiving an annual average rainfall of 100 to 150 cm and average temperature between 26°C to 27°C. • Such forests are found at Bhabar and Terai regions which include Bahraich, Shravasti, Maharajganj, Pilibhit, etc. districts of the state. • Teak is the dominant species of these forests. Major trees in these forests are sal, palash, ber, mahua, dhak, amla, jamun, semal, etc.
Tropical Dry Deciduous Forests	<ul style="list-style-type: none"> • These forests grow in the areas receiving the rainfall 50 to 100 cm. • The main regions of these forests are the plains of Ganga, Yamuna and their tributaries. • These forests are found in all parts of the plains and usually in Eastern, Central and Western regions which include Lucknow, Raebareli, Unnao, Ghaziabad districts of the state. • These trees are mostly deciduous. Large tracts of these forests have been cleared for cultivation. • Sal, palash, amaltas, bel, anjeer, etc are important trees of these forests. Neem, peepal, sheesham, mango, jamun, babool, imli (Tamarind), etc grow along river banks and in places that contains moisture.
Tropical Thorny Forests	<ul style="list-style-type: none"> • These forests grow in the areas receiving low annual rainfall from 50 to 75 cm and mean annual temperature between 25°C to 27°C. • These forests have widely scattered thorny trees, mainly babool, thorny legumes and spurge. During rains, short grasses also grow here. The trees are generally small here forming open dry forests. • Phulai, khair, dhaman, neem, etc are important tree species of these forests. • Various types of resin and gum are obtained from these trees. • Southern Uttar Pradesh including Mirzapur, Jhansi, Lalitpur, Mahoba, Chitrakoot, Banda, Jalaun are covered with these forests.

3. Important Trees of Uttar Pradesh and their Uses

Chir	This wood is light reddish brown and moderately hard. It is used for making tea chests, matches, furniture, resin and turpentine.
Senegalia Catechu	It is known as 'chair in Hindi. Catechu (kattha) is extracted from its heartwood which is used as an ingredient to give red colour and typical flavour to betal leaf (paan).
Semal	It is used to make matchsticks. Its seeds produces an edible oil which is used in making soaps. It has some medicinal use too.

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Gum Acacia (Babool Gum)	The colour extracted from the bark of this tree is used for dye purpose of leather items.
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Tendu Leaves	The leaves of this tree are used for making beedis or Indian cigar. Rubber Its stem is used to make natural rubber which are used to produce different products like hot water bottles, balloons, shoe soles, mattresses, etc.
Date Palm Tree	It is used for its fruits and its leaves are used to weave baskets. The different parts of these trees are used medicinally to treat a variety of ailments.
Mahua	Its fruit is used for extracting oil and flowers for wine making.
Deodar	Its wood is light-yellow, brown in colour, which is strong in use. Its wood is used for construction work, railway sleepers beams, window frames, etc.
Silver Fir	It is soft wood but not very durable. It is used for making, containers packing boxes, wood-pulp, paper and match sticks.
Bamboo	It is also known as 'Poor man's timber'. It is used extensively in making various items like basket making roofing and thatching material, construction work, furniture, pulp and paper making.

4. Uttar Pradesh Forest Policy, 2017

The state of Uttar Pradesh announced its new State Forest Policy in October, 2017 in place of State Forest Policy, 1998. The objectives of State Forest Policy, 2017 are as follows:

- Improvement of existing natural and planted forests by conservation, development and scientific and thoughtful management.
- Formulation and implementation of schemes of afforestation and soil conservation in different types of degraded lands of state viz. usar, khadar, ravines and blank forest.
- Special emphasis on forest dweller centric forest management.
- Increase of tree cover by social and agro-forestry plantations on private lands.
- To get carbon credits on the plantation which is planted according to international standards.
- To endeavour for the reduction of siltation of water and reservoirs and effects of floods and drought through controlled measures over soil-erosion.
- To promote plantation over non-forest land.
- To prepare and implement strategies for conservation and improvement of biodiversity and wildlife in the state.
- To develop eco-tourism destination.
 - The Uttar Pradesh Forest Corporation was established on 25 November 1974 under the Uttar Pradesh Forest Corporation Act 1974 as the local authority for more effective conservation, development and scientific exploitation of forest produce than the forests of Uttar Pradesh.

Activities being carried out by Uttar Pradesh Forest Corporation

- Removal and disposal of forest produce according to the management plan from the forests.
- Tendupatta collection and disposal work.
- Collection, storage and marketing of herbs in Lalitpur, Jhansi, Mahoba, Chitrakoot, Mirzapur, Sonbhadra and Varanasi districts
- PM Van – Dhan Yojna
- Eco-Tourism

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4. Forest Development Schemes in Uttar Pradesh

	<ul style="list-style-type: none"> This is a major scheme funded by State Government for tree plantation. Plantations is carried out on various type of community land, canals, rail, and on land available on road side to ensure the availability of timber, fuel wood, fodder, small forest produce etc., in rural areas of all the districts in the state.
Social Forestry	<ul style="list-style-type: none"> Special component sub plan Social forestry scheme is being implemented through the fund received from social welfare department for the welfare of scheduled castes under special component plan. Under this tree plantations work is carried out in scheduled caste abundant regions.
Operation Green	<ul style="list-style-type: none"> This scheme was started on 1st July, 2001, in Uttar Pradesh for tree plantation. The scheme was started with the assistance of local community various government departments, schools and private organisations. Since 2007-08, the scheme is in operation with purpose to increase greenery in all the districts of the state and upgrade forest parks and Van Chetna Kendras in Uttar Pradesh.
Vriksha Bandhu Puraskar Yojana	<ul style="list-style-type: none"> This scheme was started in the year 2007-08. Under this scheme, awards are given to those people and organisations which help to promote plantations and wildlife conservation in the state.
Tree Cover Extension Scheme	<ul style="list-style-type: none"> This scheme was started in 2007-08 in 48 districts of the state to extend tree cover in these districts.
Joint Forest Management Scheme	<ul style="list-style-type: none"> There are two schemes being implemented in the state since 2010, namely, Joint Forest Management and Poverty Alleviation Schemes in 16 districts of Terai, Vindhyas and Bundelkhand regions with the assistance of Japan Government. Belhatthi village of Sonbhadra district has been declared as the first village forest of the state.
Vir Abdul Hameed Forest, Wildlife and Environment Protection Award Scheme	<ul style="list-style-type: none"> This scheme was started in the year 2012-13 with the aim to recognize the works of individuals/organizations who has done a commendable work to increase the tree cover, wild life and environment protection which awakens the spirit of forest and wild life conservation in the society.

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<p>Green Belt Development Scheme</p>	<ul style="list-style-type: none">• This scheme is in operation since 2012-13. Under this scheme, different tree species are being planted in the community places like, Indian rosewood, Cassia fistula (Golden shower tree), Albizia lebbeck (frywood), mango, fig, tamarind, banyan trees.• The financing from forest corporation and green belt development scheme has been started in the year 2013-14.• This is scheme implemented in the entire state.
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Total Forest Cover Scheme	<ul style="list-style-type: none"> This scheme was started in the year 2014-15 in the state to ensure complete greenery in 6 districts i.e. Lucknow, Etawah, Badaun Mainpuri, Unnao and Kannauj.
Social Forestry-tribal Sub Plan	<ul style="list-style-type: none"> This scheme is in operation in the ST dominated areas such as Shrawasti, Bahraich, Sonbhadra, Renukoot and Obra forest divisions. The financial assistance is given by the social welfare department for the welfare of STs in the state.
Social Forestry in Urban Areas	<ul style="list-style-type: none"> This scheme aims to plant ornamental and shady trees on the unused land alongside the roads and parks for environmental protection and beautification in urban lands.
Industrial and Pulp wood Tree Plantation	<ul style="list-style-type: none"> This scheme promotes the plantation of different types of trees like gutel, alianthus, semal, khair, etc for forest based industries like match-wood, plywood, hardwood, etc. Alianthus and poplar trees are planted for pulp and eucalyptus and bamboo trees for paper industry.
Hi-tech Nursery Scheme	<ul style="list-style-type: none"> Under this scheme, hi-tech nurseries are being developed in districts like Bareilly, Bijnor, Pilibhit, Meerut, Budaun and Saharanpur in order to increase forest cover in the state.
Intensification of Forest Management	<ul style="list-style-type: none"> It is a joint scheme of Central and State Governments with a financial assistance of 75 : 25 ratios. Different activities are carried out in this scheme like activity to save forests from fire, formulation of management scheme, field surveys, delimitation, etc.
Tree Promotion Scheme	<ul style="list-style-type: none"> This scheme is being implemented in 10 districts of the state with the assistance of NABARD. The objectives of this scheme are production of high variety of seeds, establishment of new stern laboratories, maintenance of old laboratories, preparation for cloning of trees, establishment of cloning seed nursery. This scheme will ensure the availability of high-quality plantation material for future tree-plantation without any obstacle.
Fuel Wood Plantation	<ul style="list-style-type: none"> To stop the use of cow dung cake for fuel, fuel wood plantation is being promoted in the plain regions where fuelwood is not adequately available.
Plantation in Ravine	<ul style="list-style-type: none"> Land degradation has become a grave situation in those regions of Agra, Etawah, Mainpuri and Talaun which are situated along the banks of Yamuna, Chambal and Betwa rivers. Thus, land management conservation and plantation schemes are being implemented here to save these regions.

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<p>Eco-tourism development in Bird Sanctuary</p>	<ul style="list-style-type: none"> • Under this scheme million eco-friendly features are being made available to tourists in Lakh Bahosi Bird Sanctuary, Kannauj and Nawabganj Bird Sanctuary, Unnao, to protect the environment and to make the tourism experience better.
<p>Forest Research & Expansion</p>	<ul style="list-style-type: none"> • The task of forest research is executed through the forests promoter, saal region (Bareilly), southern region (Kanpur) and vindhya region (Ram Nagar, Varanasi) under the chief forest conservator (Research) Uttar Pradesh, Kanpur. • Departmental plantation is necessary to increase the productivity of tree plantations made by farmers on their private land or by other agencies by making them available high-quality seedlings. • In order to raise high quality seedlings, supply of high-quality selected seed source is of special importance.
<p>Organizing Forest festivals</p>	<ul style="list-style-type: none"> • This scheme is being implemented in entire state. This increases the awareness towards forests and wild life among the public. • Under this scheme tree plantation and up gradation of forest awareness centres is carried out in every district on the occasion of forest festivals.
<p>Nursery Management Scheme</p>	<ul style="list-style-type: none"> • In this scheme nurseries of 8 to 12 feet height are being raised for plantations. • This scheme is being implemented in the entire state.
<p>Development of eco-tourism</p>	<ul style="list-style-type: none"> • The eco-tourism in the state will be promoted through this scheme. • The scheme is being implemented in the areas of the state, where the natural beauty of the landscape, the forest and wildlife is available in abundance and the area is attractive to tourists. • The local people get employment opportunities, along with the growth of tourism through the project.
<p>Development of Babbar Sher Fertility Center and Lion Safari Park in Etawah district</p> <p>(UPPCS Pre 2013, UPRO 2013)</p>	<ul style="list-style-type: none"> • A forest reserve is located on 1100-hectare area, 2 k.m. west of Etawah district in the west of the city, on the Etawah-Gwalior route, which is also called as Fisher Forest. • Fisher Forest is one of the state's oldest plantations, so it has historical significance in view of the plantation. • To save the forest area from the problem of excessive biological pressure a Lion Safari Park is being set up here. • From ecological perspective this area being located in the rugged forest this is a Favourable Site for the Babbar Sher natural habitat. • Currently there is not a single Lion Safari Park in Uttar Pradesh. So, the Lion Safari Park will also promote the tourism in the state. 50 Hectare area has been selected for Lion Safari Park in Fisher Forest in Etawah.

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<p>Biodiversity Center, at Kukrail Forest division, Lucknow</p>	<ul style="list-style-type: none"> • In view of the increasing pressure on the bio-diversity, and to create mass awareness the Biodiversity park in Kukrail forest area. • Along with the growth of tourism this will provide employment opportunities to the local people.
<p>Management of wildlife outside the protected area</p>	<ul style="list-style-type: none"> • In Uttar Pradesh, where there is a plethora of wildlife in the protected area, for the purpose of proper and sustained growth of the natural habitat for wildlife, their habitat conservation is of utmost importance • To address the increasing incidence of human-animal conflict development of resources has to be made to make available a space in the whole state in view of the growing biological-pressure. • This new scheme has been launched in the financial year 2013-14.
<p>Forest settlement Scheme</p>	<ul style="list-style-type: none"> • The scheme has been proposed to survey and demarcation of forest area and to protect it from encroachment. • This scheme is proposed to be implemented in Agra, Firozabad, Hamirpur, Mahoba, Banda, Chitrakoot, Hardoi, Khiri, Unnao and Chandauli. • Under this scheme the task of bush clearance, construction of RCC pillars, barbed wire fencing along the sensitive borders and generation of Geospatial Database will be done.
<p>Project Tiger (Centrally Sponsored)</p>	<ul style="list-style-type: none"> • With the funding from the Government of India and the state government this scheme being implemented for the protection of tiger and its natural habitat.
<p>Integrated Development of Wildlife Habitats (Centrally Sponsored)</p>	<ul style="list-style-type: none"> • This scheme is being implemented for the development and management of all bird sanctuaries and wildlife sanctuaries in the state with the assistance of the Government of India. • Regional ecological development task is also carried out under this scheme.
<p>Project Elephant (Centrally Sponsored)</p>	<ul style="list-style-type: none"> • The scheme is being implemented for formally advertised as Elephant Reserve by the Ministry of Environment and Forests, Government of India. • Under the scheme, financial assistance is being provided for the protection and conservation of natural habitats of elephants, anti-poaching activities, minimization of human wildlife conflict conditions, wildlife conservation awareness and awareness in local communities, etc. • The 3 forest divisions in the state, Shivalik, Bijnor Social Forestry and Najibabad forest division, have been identified for the project where elephants are in abundance.

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<p>National Plan for conservation of aquatic ecosystems (Centrally Sponsored)</p>	<ul style="list-style-type: none"> The new scheme is to be implemented by the Government of India and the state government in 70: 30 ratio. The aim of this scheme is to protect the conserved and non-conserved Wetlands, natural habitat improvement, catchment area treatment, research, and to help in managing partnership with the local communities and water quality monitoring, etc. Under this program, Government of India provides annual financial approval on the basis of 5-year Management Intervention Action Plan for specific Wetlands.
<p>National Afforestation Programme (through Forest Development Authority)</p>	<ul style="list-style-type: none"> The scheme is being implemented from 2000-01. To add the public to the work of protection and promotion of forests, in each division of the state, according to guidelines from the Government of India forestry work is being conducted through the public participation through central aid through the Forest Development Authority. The villages which are selected under the scheme, the local residents of those villages are selected to protect, develop and promote the forests. Since the beginning, 72 forest divisions FDA in the state has been funded by the Government of India.
<p>Van Mahotasava</p>	<ul style="list-style-type: none"> On July 5, 2022, in Chitrakoot, CM Yogi Adityanath started the Van Mahotsav campaign in Uttar Pradesh by planting Harishankari saplings in Kodand forest area located in Sehrin village, the ashram of Maharishi Valmiki. The Forest Department had reached the target to plant more than 35 crore saplings in the state.
<p>Endangered Species Breeding Centre</p>	<ul style="list-style-type: none"> It was established in 1984 in Kukrail forest area of Lucknow. The aim of the centre is to save species (black deer) from extinction and to stabilise the population of the species.
<p>Turtle Rehabilitation Scheme</p>	<ul style="list-style-type: none"> It was implemented by Government of India in 1986 under the Ganga Action Plan. Aim of the scheme is to conserve the turtles.
<p>Sarus Conservation Society</p>	<ul style="list-style-type: none"> The State Government has established Sarus Protection Society with the core objective of study, ecology and support to activities that would ensure survival of the Sarus. Special projects have been funded by the society for improving the habitat in favour of Sarus and in promoting Sarus conservation consciousness across the state. According to the census in 2013, the number of Sarus have gone upto almost 12000 in the state. The Sans Protection Society is supporting extensive educational programmes in all the areas of Uttar Pradesh which are rich in wetlands.

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Integrated Development of Wildlife Habitats (IDWH)	<ul style="list-style-type: none"> • It is a centrally sponsored scheme launched during the 11th plan period to provide technical and financial assistance to state/union territory for protection of wildlife habitat. • The activities covered under the scheme includes capacity building wildlife research and evaluation, anti-poaching activities, wildlife veterinary care, addressing man-animal conflicts and promoting eco-tourism. • It is connected to all wildlife sanctuaries of Uttar Pradesh in the year 2002-03.
Development of Eco-Tourism	<ul style="list-style-type: none"> • It is implemented in Lakh Bahosi, Unnao, Kannauj and Nawabganj districts, where the natural beauty of landscape, the forest and wildlife is available in abundance. • The aim of the scheme is to attract tourist by making eco-friendly facilities.
Forest Cover Enrichment Scheme	<ul style="list-style-type: none"> • With the objective of Enrichment of forest cover in the open forest area and degenerating forest region, a four-year scheme with collaboration of NABARD is proposed for 18 districts (Agra, Aligarh, Bareilly, Meerut, Saharanpur, Moradabad, Jhansi, Banda, Kanpur, Lucknow, Faizabad, Gonda, Varanasi, Mirzapur, Allahabad, Gorakhpur, Basti and Azamgarh).
Uttar Pradesh State Biodiversity Board	<ul style="list-style-type: none"> • Under the Biological Diversity Act, 2002, the State Biodiversity Board was constituted in order to regulate access to biological resources of the country with the purpose of securing equitable share in benefits arising out of the use of biological resources.

2. National Parks

National Park is an area developed for the betterment of the wildlife and biodiversity. In National Park, activities like forestry, hunting, poaching and grazing on cultivation are not permitted. There is only one National Park in Uttar Pradesh i.e.

Dudhwa National Park

- 775 Sqr KM forest area between Mohana and Suhaili river was declared as reserved forest in 1861.
- In 1958, this area had been notified as sanctuary because it sheltered the population of endangered and rare species of swamp deer i.e. Barasingha. At first it is called as Sonaripur Sanctuary.
- In 1977 Government declared 614 sqr KM area of district Lakhimpur- Kheri as Dudhwa National Park. Dudhwa National Park is known as the Ist National Park of the state after formation of Utrakhand.
- **Dudhwa National Park** residing the areas of **Lakhimpur- Kheri district of Uttar Pradesh, (UPLDA 2006)** lying adjacent to the Indo-Nepal border bringing together two most incredible sanctuaries of the area namely, Kishanpur and Katerniaghata Wildlife Sanctuaries to represent the excellent natural forests and greenery along the Terai region.

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- **The Kishanpur Sanctuary** lies in the Lakhimpur- Kheri and Shahajahanpur districts in Uttar Pradesh.
- Spreading across an expanse of **811 sq km** beholding the nature lovers with marshes, grasslands and dense forests, the area is actually meant for tremendous counts of **Swamp Deer and Tigers species**.
- The area of the Park is composed of a vast alluvial plain along the tributaries of **Mohana and Suheli**, interspersed with numerous rivulets, lakes and pools.
- The rich and extremely fertile **Indo-Gangetic plains** support a flamboyant growth of forests diversity of fauna. The park has some of the best **forests of 'Sal' tree** in the world, amongst other flora; and is a virtual unexplored paradise for nature lovers, wildlife enthusiasts and bird watchers.

History

- The Post-Independence era witnessed tremendous encroachment towards the **Dudhwa jungle**. As a result the forest was converted in an **agricultural land**. Additionally, due to its location on the **Indo-Nepal border** the chances of poaching and hunting enhanced to greater extent and the trading of the wild animals increased to a massive extent who sell their products in Nepal, which being a tourist place gives them a huge market for these things.
- It was the perfect money-making place for the poachers but it was "Billy" **Arjan Singh** whose single handed efforts made this park to reach at its richness. The great conservationist initiated an idea of converting this land into a wildlife sanctuary in the **year 1965** and thus received a lot of appraisal from the wildlife conservationists and wildlife lovers across the world.
 - **In 1977, Arjan Singh** approached the erstwhile **prime minister, Indira Gandhi** to declare the forest as a National park. In **1984-85**, seven rhinos were relocated from **Assam and Nepal** to Dudhwa to rehabilitate a rhino population which lived here **150 years ago**. In 1987-88, the park was declared a tiger reserve and brought under the purview of the Project Tiger. Together with Kishanpur wildlife sanctuary and Khaterniaghat wildlife sanctuary it forms Dudhwa Tiger Reserve.

Wildlife

- **Dudhwa** being spread over an expanse of approximately 811 sq km of marshes, grasslands and dense forests, is an ideal and protected home for over **38 species** of mammals, **16 species** of reptiles and numerous species of birds.
- **Tiger, Rhinoceros, Swamp deer, Elephant, Sambar, Hog deer, Cheetal, Kakar, Wild pig, Rhesus monkey, Langur, Sloth bear, blue bull, Porcupine, Otter, Turtles, Python, Monitor lizard, Mugger, Gharial etc.**
- Of the nearly **1300 birds** found in the Indian subcontinent, over **450 species** can be seen in Dudhwa Reserve. These include **Hornbill, Red Jungle Fowl, Pea fowl, Bengal Florican, Fishing eagle, Bengal Florican, Serpent eagle, Osprey, Paradise flycatcher, Woodpeckers, Shama, Indian Pitta, Orioles, Emerald dove etc.** During winter the vast and varied water bodies attract a large variety and number of migratory birds making the reserve a favorite haunt of bird watchers.

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Note: Butterfly Parks in Uttar Pradesh:

Lucknow: A butterfly in Nawab Wajid Ali Shah Zoological Park, Lucknow inaugurated on April 09, 2018 at 10:00 am. The park is on two acres and hosts host plants of more than 80 species.

As there are different host plants for different types of butterflies. About 28 types of butterflies are presently seen in this butterfly park. Information about butterflies is given through various hoardings inside Butterfly Park.

Butterflies are the most important component of the environment and butterflies play the most role in pollination after bees, due to which the yield of grains and fruits etc. is increased. The flowers are indicative of a healthy environment. Pesticides, drugs, etc., are constantly causing damage to them.

Kanpur: A Butterfly Park was established in Kanpur, Feb. 2018, to preserve the ecosystem. A total of 100 species of flowers have been planted in order to attract the butterflies. More than 50 species of butterflies have already been preserved in this park. Around 50 species of flowers are also planted at the periphery of the park and 40 species of evergreen flowers also have been planted, including calendula.

3. Wildlife Sanctuaries

1. Wildlife in Uttar Pradesh

- Corresponding to its variegated topography and climate, the state has a wealth of animal life. Its avifauna is among the richest in the country. Animals that can be found here include the tiger, leopard, wild boar, sloth bear, chital, sambhar, blackbuck, barking deer, hog deer, swamp deer, jackal, hyena, porcupine, jungle cat, hare, squirrel, monitor lizards, fox etc.
- Other animals in the state include reptiles such as lizards, cobras, kraits, and gharials. Among the wide variety of fishes, the most common ones are mahaseer and trout.
- Certain species are found in special habitats. The elephant is confined to the terai and the foothills. The chinkara and the sandgrouse prefer a dry climate, and are native to the Vindhyan forests.
- Rhinoceros rehabilitation program is on in the terai forest of Dudhwa.
- Crocodile & Gharial have also started growing in numbers because of different conservation initiatives taken by the Wildlife department of Uttar Pradesh.
- The most common birds include the crow, pigeon, dove, jungle fowl, black partridge, house sparrow, peafowl, blue jay, parakeet, kite, snipes, comb ducks, mynah, quail, bulbul, kingfisher and woodpecker. Besides large numbers of migratory birds visit different bird areas of the state.

2. Wildlife Sanctuaries

- A wildlife sanctuary is a natural occurring place that provides protection for species from hunting, predation and poaching.
- The largest wildlife sanctuary in the state is **Hastinapur Wildlife Sanctuary** and the smallest is **Mahavir Swami Wildlife Sanctuary**.

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Chandraprabha Wildlife Sanctuary	<ul style="list-style-type: none"> • Established: In 1957 in Chanduali district of UP. • Area: 78 sq km. • Location: Sanctuary is situated about 70 km from the historic city of Varanasi. The <u>Karamnasha River</u>, a tributary of the <u>Ganges</u>, flows through the sanctuary, as does the Chandraprabha River, a tributary of the Karamnasha. A number of grass lands, caves and waterfalls in the Vindhyachal range dot the landscape. • Prominent fauna: leopard, hyena, wolf, wild boar, nilgai, sambar deer, chinkara, chital, gharial and python.
Katerniaghat Wildlife Sanctuary	<ul style="list-style-type: none"> • Established: It was established in 1975 in Bahraich district. It is a protected area in the Upper Gangetic plain in Uttar Pradesh. • Area: 400.6 sq. km. • In 1987, it was brought under the purview of the 'Project Tiger', and together with the Kishanpur Wildlife Sanctuary and the Dudhwa National Park it forms the Dudhwa Tiger Reserve. • It provides strategic connectivity between tiger habitats of Dudhwa and Kishanpur in India and the Bardia National Park in Nepal. • Girwa River flows through it which is a tributary of the Ghagra River. • Muggers crocodiles are also seen in small number in the Girwa river, as their favorite haunts are stagnant wetlands like the many taals and baghars that dot the sanctuary. Side by side the serenely swimming gharial can be seen frolicking Ganges dolphins. • Prominent fauna: Gharial, tiger, rhino, Gangetic dolphin, swamp deer, hispid hare, Bengal florican, the white backed and long billed vultures and major flora are sal and teak.
National Chambal Sanctuary	<ul style="list-style-type: none"> • Established: In 1979, located on the Chambal river near the tripoint of Rajasthan, Madhya Pradesh and Uttar Pradesh. It is also called National Chambal Gharial Wildlife Sanctuary. • Area: 5400 sq. km. (635 sq. km. in UP) • Protection: The last bastion for some of the country's most endangered wildlife like the Gharial, Muggar, Turtles, Otter and the fresh water Dolphin, the Chambal region also boasts of a wide variety of aquatic and terrestrial bird. Originating in the Vindhayan ranges in M.P. the Chambal River snakes its way through the states of M.P. Rajasthan and U.P. before finally meeting the Yamuna in the Etawah district of U.P. • Birds: Spread over the Agra and Etawah districts, and a total of 290 different species of migratory and resident birds have been identified in the region so far. Some birds also arrive in this sanctuary like flamingoes arrive here in November and ruddy shelduck arrives in September. This sanctuary is also the home to Indian skimmers.

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Hastinapur Wildlife Sanctuary	<ul style="list-style-type: none"> • Established: In 1986. It is a protected area in the Gangetic plains of Uttar Pradesh. • Area: It covers an area of 2073 sq km across Meerut, Muzaffarnagar, Ghaziabad, Bijnor and Amroha districts. It is the largest wildlife sanctuary in UP. (UPPCS M 2004) • Prominent fauna: Leopard, wild cats, monkey, fox, wolf, jackals, mongoose, bijju, deers, wild hogs, rabbits, musk-rats and bats etc. • Amphibians /Reptiles: Found here are turtles, python, cobra krait and viper. Crocodiles are also commonly found. • Birds found: Brown Partridges, Black Partridge, Quail, Peacock, Cranes, Spotted Bill, Eagles, White Vultures etc.
Kachhua (Turtle) Wildlife Sanctuary	<ul style="list-style-type: none"> • Established: In 1989 in Varanasi district of Uttar Pradesh under Ganga Action Plan. • Area: It covers an area of 7 sq km from Ramnagar Fort to Malviya Nagar rail road bridge. • Species found: Kachhua Sanctuary is meant for rearing tortoises. Here many varieties of tortoises can be witnessed. Some dolphin species are visible, more in the rainy season. Asperiderites Gangetic Tortoise, Geoclamis, Hamiltonai, Chitra Indica, and Lasimous are some of the carnivorous tortoise species found in the environs. Similarly herbivorous tortoises like Pechra, Kachhua, Sundri Kachhua, Kachhua Tentoria, and Kachhua Tongoka are also present. Herbivorous species are hard shelled creatures and others are soft shelled creatures. • Many fish varieties like Prawn, Bam, Nain, Tegra, Bhakur, and Rohu are also present in the river system in the sanctuary area. Fishing activities are prohibited to give protection to fish population. • Protection: Fishing and any attempt to temper with the habitat of the animals found in the sanctuary has been declared a cognizable offence under Wildlife Act, 1972.
Kaimur Wildlife Sanctuary	<ul style="list-style-type: none"> • Established: In 1982 in Mirzapur and Sonbhadra districts. • Area: 500.73 sq. km. The sanctuary reaches generally east and west along the <u>Kaimur Range</u>, extending to the <u>Son River</u> at its eastern end, and to the border of Madhya Pradesh at its western end. • Major fauna: The wildlife population comprises leopard, blackbuck, chital, chinkara, ratel and peafowl. The main species of wild animals found in the sanctuary are those of antelope, blue bull, wild cat, karakal, and bijju. There are quite a few varieties of local and migratory birds forming a large part of the wild population. • Important vegetation includes saal, sheesham teek, mahua, jamun, siddha, salai, koraiya and jheengar.

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<p>Mahavir Swami Wildlife Sanctuary</p>	<ul style="list-style-type: none"> • The sanctuary is spreads over an area of 5.41 km². Jhansi provides for a wonderful gateway to the Bundelkhand region and has been rendered famous by the legendary Rani Laxmi Bai. It was established in 1977. • In addition to a variety of birds, the residents include leopard, nilgai, wild boar, sambhar, black buck, blue bull, bear, jackals, langur and monkeys.
<p>Kishanpur Wildlife Sanctuary</p>	<ul style="list-style-type: none"> • Different species in reptile like Magar, Ghariyal, Totrise, Pithon Snack but is famous for vulture, Chinkara, woulf, wild cat, Hyna, wild dog, chinkara etc. • This is very dense and good forest of Saijan, Goonj, Stick, etc. • Jain mandir, Dashwtar Mandir • Ranchordham Mandir, Muchkund Gupha.
<p>Kishanpur Wildlife Sanctuary</p>	<ul style="list-style-type: none"> • The Kishanpur Wildlife Sanctuary is a part of the <u>Dudhwa Tiger Reserve</u> near <u>Mailani</u> in <u>Uttar Pradesh</u> in Lakhimpur Kheri and Shahjahanpur districts. It covers an area of 227 km² and was founded in 1972. • It lies along the banks of the Sharada. The forests of Dudhwa National Park and Kishanpur Wildlife Sanctuary are not contiguous and there is agricultural land in between. • The sanctuary is covered with a dense deciduous forest of sal, teak and jamun. • It is home to Tigers, Leopards, Pythons, Barking Deer, Ghariyal, Wild Boar and Swamp Deers.
<p>Ranipur Wildlife Sanctuary</p>	<ul style="list-style-type: none"> • Ranipur Wildlife Sanctuary, which was founded in 1977, is one of the attractions of Chitrakoot district in Uttar Pradesh. It is spread over 230 sq.km. • It is the natural habitat of several animals, including Tigers, Leopards, Sloth bears, Sambars, Blackbucks, Peafowl, Spur fowl, Jungle Fowl, painted partridges, fishing cats, and Chinkaras. • The National Tiger Conservation Authority (NTCA) has given its nod to the Ranipur wildlife sanctuary in Chitrakoot as a Tiger Reserve. • This will be the fourth tiger reserve in the state to be developed, after Dudhwa, Pilibhit, and Amangarh. • There is very dense and good forest of Bambu, Palas, Khair, Mahua, Dhau, Salai, Tendu etc. • Vedhak Jaldhara, Lakhanpur, Rujhouhn, Sabari Prapat, Amrawati Prapat, Dharkundi asharam, Tranquil Forest, Quiet Rivers and Pilgrimage are natural attractions.

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Sohagibarwa Wildlife Sanctuary	<ul style="list-style-type: none"> • Sohagibarwa Wild Life Sanctuary, carved out of the Old Gorakhpur Forest Division in 1987, is situated in the Maharajganj district of Uttar Pradesh. Its area is of 428 sq. km. • The sanctuary, on the border area of the State, has the international Indo-Nepal border in the North and interstate U.P. – Bihar boarder to the East. • The sanctuary, drained by great Gandak, the little Gandak, Pyas and Rohin rivers, has a number of ponds, lakes [Tals], swamps and open grass lands. • Such a varied area is inhabited by a variety of animals which mainly includes Leopard, Tiger, Jungle Cat, Small Indian Civet, Langur, Deer, Blue Bull, Wild boar, Porcupine etc. • Nearly 75% of the area consists of Sal forest and other humid areas are covered with Jaamun [Syzigium Cumini], Gatal [Trewia Nudiflora], Semal [Bombax Ceiba], Khair [Acacia Catechu] Trees, etc.
Suhelwa or Sohildeo Wildlife Sanctuary	<ul style="list-style-type: none"> • Located in Shravasti, Balrampur and Gonda districts of Uttar Pradesh, Suhelwa was declared a Wildlife Sanctuary in 1988. • At present it is one of the important place where Bhabhar-Tarai Eco-System area, rich in bio diversity is visible. • Occupying an area of 452 sq km, the sanctuary is covered with Sal, Sheesham, Khair, Sagaun (Teak), Asna, Jamun, Haldu, Phaldu, Dhamina, Jhingan and Bahera trees. The fauna found in the sanctuary includes Leopard, Tiger, Bear, Deer Wildcat, Wild Boar and various birds. • It is situated on the Indo-Nepal International Border.

4. Bird Sanctuaries

There are 13 bird sanctuaries in Uttar Pradesh. Some major bird sanctuaries are discussed below:

Bakhira Bird Sanctuary	<ul style="list-style-type: none"> • Established: In 1990. • Area: It covers an area of 28.94 sq km. • Features: <ul style="list-style-type: none"> ○ It is the largest natural flood plain wetland of India in Sant Kabir Nagar district of Eastern Uttar Pradesh. (UPPCS Pre 2008) ○ It provides a wintering and staging ground for a number of migratory waterfowls and a breeding ground for residential birds ○ This is also used for farming activities as it is connected to Bakhira Canal ○ The Siberian birds travel across 5,000 km to get to these wetlands at the time of winter.
Okhla Bird Sanctuary	<ul style="list-style-type: none"> • Established: In 1990 • Area: 4 sq. km.

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	<ul style="list-style-type: none"> • Location: Okhla barrage over Yamuna river. It is situated in Noida, Gautam Buddha Nagar district. • Important species: It is known for over 300 birds, especially water birds. Two critically endangered species of white rumped vulture and Indian vulture, nine vulnerable species like Baikal teal, baer's pochard, sans crane, sociable lapwing, Indian skimmer, Pallas's fish eagle, lesser bristled grassbird and finn's weaver.
Patna Bird Sanctuary	<ul style="list-style-type: none"> • Established: In 1990. • Location: Etah district of Uttar Pradesh. • Area: It is the smallest bird sanctuary in Uttar Pradesh with a wetland area of only 1.09 sq km . • Species: About 2 lakh birds of 300 different species inhabit this sanctuary.
Parvati Araga Bird Sanctuary	<ul style="list-style-type: none"> • Established: in 1997 • Location: Gonda district. • Area: 10.84 sq. km. • Important fauna: Northern Pintail, bar-headed goose, red-crested Pochard, tufted duck, etc.
Jai Prakash Narayan Bird Sanctuary	<ul style="list-style-type: none"> • Established: In 1991. • Location: Ballia district. • Area: 34.32 sq km. • Feature: Generally, foreign and local migratory bird visit this sanctuary during winters. It is also known as Surha Taal Bird Sanctuary. (UPPCS M 2004)
Lakh Bahosi Bird Sanctuary	<ul style="list-style-type: none"> • Established: In 1998. • Location: Farrukhabad district. • Area: 80.24 sq km. • Features: <ul style="list-style-type: none"> ○ It is the largest bird sanctuary in the state. This sanctuary is home to various migratory birds from November to March. ○ Jackal, blue bull, mongoose, fishing cat and monkeys may also be spotted here. ○ Lakh and Bahosi oxbow lakes

Other Major Bird Sanctuaries

Name of Protected Area	Area (sq km)	District	Year of Establishment
Shaheed Chandrashekhar Azad (Nawabganj) Bird Sanctuary	2.25	Unnao (UPRO 2016, Pre 2005)	1984
Samaspur Bird Sanctuary	8	Raebareli	1987

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Sandi Bird Sanctuary	3.09	Hardoi (UPPCS Pre 2014)	1991
Saman Bird Sanctuary	5.26	Mainpuri	1990
Vijay Sagar Sanctuary	2.62	Mahoba	1990
Sur Sarovar Sanctuary or Keetham Lake	8	Agra	1991
Dr. Bhim Rao Ambedkar Bird Sanctuary	4.27	Pratapgarh	2003

5.

Tiger Reserves

Uttar Pradesh has 4 Tiger reserves, which are as follows:

Dudhwa Tiger Reserve	<ul style="list-style-type: none"> • Location: It is a protected area spread across the Lakhimpur-Kheri and Bahraich districts and comprises Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katerniaghat Wildlife Sanctuary. It shares North-Eastern boundary with Nepal. • Established: Declared as tiger reserve in 1987. • Important fauna: Tigers, leopards, swamp deer, cheetal, elephants, sambar, barking deer and around 400 bird species.
Pilibhit Tiger Reserve	<ul style="list-style-type: none"> • Location and Estd: In 2008, in Pilibhit district, Lakhimpur-Kheri district and Bahraich district of UP. It lies along Indo-Nepal border in the foothills of Himalayas and plains of the Terai in UP. • Important species: It is home to large number of rare and threatened species which includes Bengal tiger, Indian leopard, swamp deer, hispid hare and Bengal floricans
Amangarh Tiger Reserve	<ul style="list-style-type: none"> • Location: Amangarh in Bijnor district. • Established: It was declared in 2012 • Important species: It is a home to tigers, elephants and a wide variety of other wild animals. • Note: <ul style="list-style-type: none"> ○ Amangarh Tiger reserve was originally a part of the famed Jim Corbett National Park. After state of Uttarakhand was carved out of Uttar Pradesh, Jim Corbett went to Uttarakhand and Amangarh remained in Uttar Pradesh. ○ It is a tiger reserve under Project Tiger in India. The other two Tiger reserves in Uttar Pradesh are Dudhwa Tiger Reserve and Pilibhit Tiger Reserve.

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Ranipur Tiger Reserve	<ul style="list-style-type: none"> • Uttar Pradesh (UP) approved the notification of the state's fourth tiger reserve in the Ranipur Wildlife Sanctuary (RWS) in Chitrakoot district in 2022. • This is the 53rd Tiger Reserve in India. • A Ranipur Tiger Conservation Foundation will also be established for the protection and conservation of tigers in the region. • It has no resident tiger. However, it is an important corridor for the movement of tigers, according to the Status of tigers, co-predators and prey in India report by the National Tiger Conservation Authority (NTCA). • The Ranipur Tiger Reserve is the fourth in UP. • It will also be the first in the Bundelkhand region of the state.
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6. Wetland

1. **Upper Ganga River (Brijghat to Narora Stretch):** The river provides habitat for IUCN Red listed Ganges river dolphin (EN) and critically endangered gharial.
2. Sur Sarovar
3. Sarsai Nawar Jheel
4. Sandi Bird Sanctuary
5. Samaspur Bird Sanctuary
6. Saman Bird Sanctuary
7. Parvati Araga Bird Sanctuary
8. Nawabganj Bird Sanctuary
9. Bakhira Wildlife Sanctuary
10. Haiderpur Wetland

7. Uttar Pradesh: Zoological Park

Kanpur Zoological Park	<ul style="list-style-type: none"> • It is a well-known Zoological Park of India. It was established in 1974 in Kanpur district of Uttar Pradesh. It covers an area of 0.76 sq km. • It is established in a manmade forest. The terrain of the park is undulating and resembles a high forest. It is one of those Zoological Park which have been built on modern Zoo building principles. • Allen forest was developed during the British rule between the years 1913-1918 by Mr. George Burney Allen, a famous British industrialist of Kanpur. The forest has been developed on the banks of the river Ganga.
Nawab Wajid Ali Shah Zoological Park	<ul style="list-style-type: none"> • It was established in 1921 in Lucknow, the capital city of Uttar Pradesh. It covers an area of 0.29 sq. km.

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	<ul style="list-style-type: none">• The century-old Nawab Wajid Ali Shah Zoological Garden, which is popularly known as the Lucknow Zoo, will also be shifted from its current location to the Kukrail Forest.• The new location of the Zoological Park will be about 12 km away from its current place at Narhi.
	<ul style="list-style-type: none">• The decision to shift the Zoological Garden has been taken as part of the decongestion drive at the Narhi.• After being shifted, the zoo will be transformed into a modern open-air nocturnal zoo.
Night Safari Park	<ul style="list-style-type: none">• India's 1st Night Safari: UP State Government has approved setting up India's first night safari park at Kukrail Forest Area in Lucknow. As part of the project, UP Govt will also setup a Zoological Park in around 150 acres.

Inspiring Success

Lucknow