



Environment

Current Affairs

PROTECTED AREAS IN NEWS

Compilation

Jan 2025 - Dec 2025

UPSC Prelims 2026





Protected Areas in News UPSC Prelims- 2026

By PRAYAAS EDUCATION

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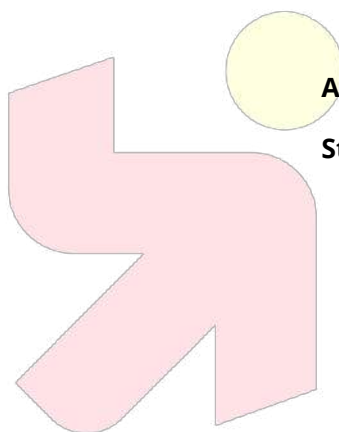
Note to the Students:

In this Protected Areas file, our objective is to **cover all required dimensions in an integrated manner — including factual details, linkages with static syllabus**, and the actual pattern in which UPSC frames questions.

You will find **protected areas in news**, but **simultaneously, the focus is also on understanding the underlying theory and developing the ability to analyse and eliminate options**, which is crucial for the exam.

Particularly for Biosphere Reserves, although only 3–4 reserves are frequently in the news, we have compiled all **18 Biosphere Reserves of India**. The reason is simple: once the concept of a Biosphere Reserve is clear, it becomes much easier to eliminate options and handle diverse UPSC questions effectively.

Use this **magazine wisely and thoroughly**. If you have any positive feedback or suggestions, you may share them on the contact numbers mentioned below.



All the best for your preparation.

Study smart. Stay consistent.

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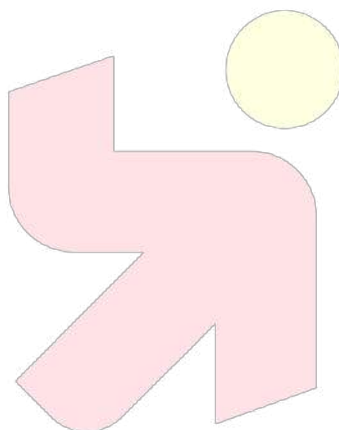
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Ramsar Wetlands

Context:

- In the run up to **the celebration of World Wetlands Day 2025 on 2nd February**, Union Minister of State for External Affairs, Forest, Environment, and Climate Change, Shri Kirti Vardhan Singh presided over the Regional Workshop on Conservation and Wise Use of Wetlands.
- Link for reference: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2098813®=3&lang=1>

About Wetland Ecosystem:

- According to the **Ramsar Convention**, wetlands are areas of marsh, fen, peatland, or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salt, including areas of marine water the depth of which at **low tide does not exceed six meters**.

Type	Examples
Inland Wetlands	Lakes, oxbow lakes, marshes, swamps, peatlands, seasonal ponds.
Coastal Wetlands	Mangroves, coral reefs, estuaries, lagoons, salt marshes.
Human-made Wetlands	Reservoirs, tanks, paddy fields, salt pans, wastewater treatment ponds.

Ramsar Convention (1971)

- Nature: An intergovernmental treaty for the conservation and **wise use of wetlands**.
- Signed at:** Ramsar, Iran, in 1971.
- Wise Use Principle:** This is the core of the convention, emphasizing that conservation **does not mean "no use," but sustainable use** for human benefit while maintaining ecosystem integrity.
- Ramsar Sites in India:** As of 2026, India has a significant number of Ramsar sites (the most in South Asia). Tamil Nadu currently holds the highest number of Ramsar sites in India.

The Montreux Record: This is a register of wetland sites on the List of Ramsar sites where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution, or other human interference.

India's Context: Currently, two sites from India are on the Montreux Record:

- Keoladeo National Park** (Rajasthan)
- Loktak Lake** (Manipur)

Note: Chilika Lake (Odisha) was once on the record but was removed after successful restoration.

Wetland Rules in India

- Wetlands (Conservation and Management) Rules, 2017:**
 - Applicability:** Applies to Ramsar sites and those notified by Central/State governments.
 - Exclusions:** Does not apply to river channels, paddy fields, man-made water bodies for drinking water, or salt pans.
 - Authority:** State Wetland Authority (SWA) in each state and National Wetland Committee (NWC) at the center.

Key Indian Wetlands and Specific Features:

- **Loktak Lake (Manipur):** Famous for Phumdis (floating islands of vegetation) and the **Keibul Lamjao National Park** (the only floating park in the world), home to the Sangai (brow-antlered deer).
- **Chilika Lake (Odisha):** Asia's largest brackish water lagoon. Famous for Irrawaddy Dolphins.
- **Ashtamudi & Vembanad (Kerala):** Part of the backwater (Kayal) ecosystem.
- **Renuka Wetland (Himachal Pradesh):** The smallest Ramsar site in India.
- **Sunderbans (West Bengal):** The largest Ramsar site in India.

World Wetland Day is observed annually on **February 2nd** to raise global awareness about the vital role of wetlands for people and our planet.

Historical Background

- **Commemoration:** It marks the date of the adoption of the **Convention on Wetlands** on February 2, 1971, in the Iranian city of **Ramsar** on the shores of the Caspian Sea.
- **First Celebration:** While the convention started in 1971, World Wetland Day was first celebrated in **1997**.
- **UN Recognition:** In 2021, the UN General Assembly adopted resolution 75/317, officially recognizing World Wetland Day as a **United Nations International Day**.

Threats to Wetlands:

- **Encroachment:** Conversion for agriculture and urban settlements.
- **Eutrophication:** Excessive nutrient runoff (nitrates/phosphates) leading to algal blooms.
- **Invasive Species:** Like Water Hyacinth (*Eichhornia crassipes*).
- **Siltation:** Excessive sediment deposit reducing the water-holding capacity.

#PRAYAAS MANTRA:

- As of December 2025, there are **96 Ramsar Sites in India**. Tamil Nadu (20) boasts the highest number of Ramsar Sites. UK (175) has the highest number of Ramsar sites in the world, followed by Mexico (142).

National Plan for Conservation of Aquatic Ecosystems (NPCA)

- NPCA is a **centrally sponsored scheme implemented by MoEF&CC**.
- It aims to **restore and protect wetlands, improve water quality, enhance biodiversity**, integrate wetlands into development plans, and support States with management, capacity building, and research.
- It **uses a four-pronged approach**, including the creation of a Wetland Brief Document, a Wetland Health Card, Wetlands Mitras for collaboration, and a Wetland Integrated Management Plan.

Definition of Wetland by Ramsar Convention

- Ramsar Convention on Wetlands define wetlands as
- areas of marsh, fen, **peatland** or water,
- whether natural or **artificial**,
- **permanent or temporary**.
- with water that is static or flowing, fresh, brackish or salt,
- **including areas of marine water**, the depth of which at low tide **does not exceed six metres**".
- Hence wetlands include all lakes and rivers, underground aquifers, swamps and marshes, wet grasslands, peatland, oases, estuaries, deltas and tidal flats, mangroves and other coastal areas, coral reefs, and all human-made sites such as fishponds, rice paddies, reservoirs and salt pans.
- **In India, The Wetlands (Conservation and Management) Rules, 2017 excluded** "river channels, paddy fields, human-made water bodies or tanks specifically constructed for drinking water purposes, and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes" from the ambit of wetlands.

Contracting Parties (COP) to Ramsar Convention on Wetlands

- COP is the policy-making organ of the convention, which adopts decisions (resolutions and recommendations) to administer the work of the convention.

- Every three years, representatives of the COP meet as the Conference of the Contracting Parties (COP)
- COP13 took place in Dubai, United Arab Emirates, in 2018.
- **Chinese city of Wuhan** — situated on the left bank of the Yangtze River (the longest river in Asia – 6,300 km) — was to host the COP14 in 2022.

International Organization Partners of Ramsar Convention

- The Ramsar Convention works closely with six organizations known as International Organization Partners (IOPs).
- These are:
 - Birdlife International
 - International Union for Conservation of Nature (IUCN)
 - International Water Management Institute (IWMI)
 - Wetlands International
 - World Wide Fund for Nature (WWF)
 - International Wildfowl & Wetlands Trust (WWT)

Wetlands (Conservation and Management) Rules 2010

- **MoEF** has notified rules under the provisions of the **Environment (Protection) Act, 1986.**
- MoEF has notified the rules in order to ensure that there is no further degradation of wetlands.
- Central Wetland Regulatory Authority (CWRA) has been set up to ensure proper implementation of the Rules. The rules also encompass the drainage area of the wetlands as determined by the CWRA.

Wetlands (Conservation & Management) Rules 2017

- The new rules replaced the 2010 version of the rules.
- New rules have decentralized wetlands management by giving states powers to not only identify and notify wetlands within their jurisdictions but also keep a watch on prohibited activities.
- To oversee the work carried out by States, the rules stipulate for setting up of National Wetlands Committee (Headed by the MoEF Secretary) to monitor implementation of these rules

What cannot be notified under the Rules?

- The guidelines clarified that all wetlands, irrespective of their location, size, ownership, biodiversity, or ecosystem services values, can be notified under the Wetlands Rules 2017 **except:**
 - River channels
 - Paddy fields
 - Human-made water bodies specifically constructed for drinking water
 - Aquaculture
 - Salt production
 - Recreation
 - Irrigation purposes
 - Wetlands falling within areas covered under the Indian Forest Act, 1927, Forest (Conservation) Act, 1980, Wildlife (Protection) Act, 1972 and the Coastal Regulation Zone Notification, 2011.
 - Protected Areas and areas falling within the purview of Coastal Zone Regulation

State Wetland Authority

- States and UTs have been given the responsibility for wetland management by setting up State and UT Wetland Authorities (SWAs).
- It will be headed by Environment Minister & includes other government officials as well as experts from the fields of wetland ecology, hydrology, fisheries, landscape planning and socioeconomics.
- SWAs have to identify and notify the wetlands for protection within the stipulated time.
- It needs to develop a comprehensive list of activities to be regulated and permitted within notified wetlands and their zone of influence.
- Recommend additional prohibited activities for specific wetlands.

Latest Ramsar Sites in India

- Ahead of World Wetlands Day (February 2), India has increased its tally of Ramsar sites (Wetlands of International Importance) to 96.
- Notably, Jharkhand and Sikkim received their first Ramsar designations.
- Most Indian Ramsar Sites lie on the Central Asian Flyway for migratory avian species.

Nagi Bird Sanctuary -

- Nagi Bird Sanctuary is a man-made reservoir (Nagi Dam) located in Jamui district of Bihar.
- It is designated as an Important Bird Area (IBA) by Birdlife International.

Nakti Bird Sanctuary -

- Nagi Bird Sanctuary is a man-made reservoir (Nakti Dam) located in Jamui district of Bihar.
- It hosts one of the largest congregations of red-crested pochard in the Indo-Gangetic plain.
- It is also designated as an Important Bird Area (IBA) by Birdlife International.
- The important fauna include Bengal fox, Monitor Lizard, catfish, etc.
- Both Nagi and Nakti sanctuaries form part of the Ganga basin.

Jhajha forest range

- It is situated in Jamui district of Bihar and forms part of the Valmiki Tiger Reserve landscape.
- The manmade reservoirs Nagi and Nakti are located within this forest range.

BirdLife International

- It is a non-profit global conservation group & the official Red List Authority for birds.
- It is world's largest conservation partnerships for conservation of birds and their habitats.
- Its global office is in UK with 6 regional offices – Africa, the Americas, Asia, Europe and Central Asia, the Middle East and the Pacific.
- **Mission-** To conserve birds, their habitats & global biodiversity, working with people toward sustainability in using natural resources.
- Bombay Natural History Society (BNHS), Mumbai is BirdLife International partner from India.
- **BNHS & Birdlife International identify Important Bird Areas (IBAs) in India.**
- IBA programme of Birdlife International aims to identify, monitor & protect a global network of IBAs for the conservation of the world's birds & associated biodiversity
- It publishes a quarterly magazine, World Birdwatch, which contains recent news and authoritative articles about birds, their habitats, and their conservation around the world.
- It also published important bird areas (IBA) inventory.

More Three added

- 83) Tawa Reservoir, Madhya Pradesh
- 84) Nanjarayan Bird Sanctuary, Tamil Nadu
- 85) Kazhuveli Bird Sanctuary, Tamil Nadu

Four More added: -

Context: -

- **Ahead of World Wetlands Day** (February 2), India has increased its tally of Ramsar sites (Wetlands of International Importance) to 89 by designating four more wetlands as Ramsar sites.
- Notably, Jharkhand and Sikkim received their first Ramsar designations.

Udhwa Lake (Jharkhand)

- **First Ramsar Site in Jharkhand:** Udhwa Lake is recognized for its rich avian biodiversity, making it a crucial habitat for migratory birds.
- Located near the sacred Ganga River, enhancing its scenic and ecological value.

- Oriental white-backed vulture (CR), Pallas's fish eagle (EN), Black-necked stork (NT), Lesser adjutant (NT), Oriental darter (LC) and Oriental white ibis (LC) have been recorded from here.
- Threats: Heavy influx of migrants and agriculture.

Khecheopalri Wetland (Sikkim)

- **First Ramsar Site in Sikkim**: This wetland is both sacred and ecologically significant, located in the revered Demazong Valley.
- Local Significance: Known as Sho Dzo Sho, which translates to "Oh Lady, Sit Here" in the local language, reflecting its cultural importance. It is revered by both Buddhists and Hindus.
- The mighty Kanchenjunga peak serves as a majestic background.

Sakkarakottai Bird Sanctuary (Tamil Nadu)

- Ecological Role: Spanning 230.49 hectares, it is home to various flora such as Neem, Palmyra Palm, and Gloriosa superba.
- Wildlife: Provides habitat for diverse fauna, including endangered Lion-tailed Macaque & Giant Squirrel.
- Migratory Birds: A significant stop for migratory birds during the seasonal period (October to March).

Therthangal Bird Sanctuary (Tamil Nadu)

- Size: Spreads across 29.29 hectares, providing a critical habitat for avifauna.
- Flora and Fauna: Home to plant species like Aponogeton nutans and Hydrilla verticillata, along with diverse birdlife.

Khichan (Phalodi) and Menar (Udaipur) wetlands

- Khichan (Phalodi) and Menar (Udaipur) wetlands in Rajasthan have been declared Ramsar Sites, bringing India's total to 91, the highest in Asia.
- Khichan is famous for hosting thousands of migratory Demoiselle cranes, while Menar (Bird Village), is recognized for its community-led bird conservation efforts.
- Rajasthan now has 4 Ramsar Sites, including Sambhar Lake (Nagaur & Jaipur) and Keoladeo Ghana National Park (Bharatpur).

Udaipur Jheel, Bihar

- Oxbow Lake bordered by dense forest of Udaipur Wildlife Sanctuary, surrounding a village.

Gokul Jalashay, Bihar

- Oxbow Lake located on the southern edge of the Ganga River.

Goga beel Lake (Bihar)

- Bihar's 6th Ramsar site.
- Permanent oxbow lake, formed by old channels of Kankhar & Mahananda rivers; fed by floodwaters from Mahananda, Ganga, and Khankhar rivers.
- Declared Bihar's first Community Reserve in 2019 and is recognised as an Important Bird and Biodiversity Area (IBA) by BirdLife International.

Kopra Reservoir, Chhattisgarh

- India's **95th and Chhattisgarh's first Ramsar site**, located in Bilaspur district.
- It is a unique ecosystem blending both natural and man-made features.
- Originally built for irrigation and water supply, it naturally evolved into a wetland ecosystem.
- Primarily rain-fed & supported by seasonal streams of upper Mahanadi basin.
- Serves as a winter halt and stopover for migratory birds.

Siliserh Lake, Rajasthan

- India's **96th Ramsar site** and the fifth in Rajasthan.

- Man-made lake located in the Aravalli Hills, near Alwar city, Rajasthan.
- Created in 1845 by Maharaja Vinay Singh to supply drinking water to Alwar city.
- Formed by building a dam on a tributary of the Ruparel River.
- Lies within the buffer zone of Sariska Tiger Reserve.

State-wise Number of Ramsar Sites: -

Rank	State	No. of Ramsar Sites
1	Tamil Nadu	20
2	Uttar Pradesh	10
3	Odisha	6
4	Punjab	6

State-wise Area of Ramsar Sites: -

Rank	State	Area Under Ramsar Sites (km ²)
1	West Bengal	4,355
2	Odisha	3,456
3	Tamil Nadu	2,469

Largest Ramsar Sites in India: -

Ramsar Site	State	Area (km ²)
1 Sundarban Wetland	West Bengal	4,230
2 Kazhuveli Bird Sanctuary	Tamil Nadu	1,513
3 Vembanad-Kol Wetland	Kerala	1,512.5
4 Chilika Lake	Odisha	1,165
5 Satkosia Gorge	Odisha	981.97
6 Kolleru Lake	Andhra Pradesh	901

Smallest Ramsar Sites in India: -

Ramsar Site	State	Area (km ²)
1 Renuka Lake	Himachal Pradesh	0.2
2 Vembannur Wetland Complex	Tamil Nadu	0.2
3 Vedanthangal BS	Tamil Nadu	0.4
4 Nanda Lake	Goa	0.42
5 Udhayamarthandapuram BS	Tamil Nadu	0.44

Oldest Ramsar Sites in India: -

1	Chilka Lake – 1981
2	Keoladeo Ghana NP – 1981

COP15 to the Ramsar Convention

Context: -

- India's resolution on the '**Promoting Sustainable Lifestyles for the Wise Use of Wetlands**' was **adopted at the 15th** Conference of the Contracting Parties (COP15) to the Ramsar Convention on Wetlands, **held at Victoria Falls, Zimbabwe.**

India's Resolution on the Wise Use of Wetlands:

- India's resolution builds upon **UN Environment Assembly Resolution 6/8 on 'Promoting Sustainable Lifestyles'** adopted in 2024 and promotes a whole-of-society approach to wetlands conservation.

Key Provisions:

- Alignment with Global Frameworks:** India's resolution aligns with Resolution XIV.8. It also supports the 10-Year Framework on Sustainable Consumption and Production (10YFP).
- Resolution XIV.8, adopted at the COP14** of the Ramsar Convention on Wetlands, outlines a "**new CEPA approach**", which focuses on **Communication, Education, Participation, and Awareness (CEPA)** for wetland conservation and wise use.

United Nations Environment Assembly

- It is the governing body of the **UN Environment Programme (UNEP).**
- It is the **world's highest-level decision-making body** on the environment.
- The Assembly is **made up of the 193 UN Member States** and convenes every two years to advance global environmental governance.
- It was **created in June 2012**, during the United Nations Conference on Sustainable Development, also referred to as RIO+20.

Global Wetland Outlook (GWO) 2025

- It is **released by the Secretariat of the Ramsar Convention** (1971), highlights that Africa's wetlands are among the most degraded in the world.
- The Ramsar Convention **Secretariat is based in Gland, Switzerland.**
- The **International Union for Conservation of Nature (IUCN)** supports its operations by providing administrative services to the Convention's member countries.

Wetland City Accreditation

Context (PIB):

- MoEFCC nominated Indore (Madhya Pradesh), Bhopal (Madhya Pradesh) and Udaipur (Rajasthan) for Wetland City Accreditation (WCA) under the Ramsar Convention on Wetlands.

About: -

- The Wetland City Accreditation Scheme is a **voluntary scheme approved in 2015 in COP12 of the Ramsar Convention.**
- It recognizes cities that have **taken exceptional steps to safeguard their urban wetlands.**
- To be formally accredited, a candidate for the **Wetland City Accreditation should satisfy the standards used to implement each of the six international criteria** mentioned for WCA of the Ramsar Convention.
- Validity:** Once granted, it is valid for a **period of 6 years.**

Objective

- Promote the conservation and wise use of urban and peri-urban wetlands, as well as sustainable socio-economic benefits for local populations.

- It seeks to encourage cities that are close to and dependent on wetlands, primarily Wetlands of International Importance, but also wetlands with other conservation category status, to develop and strengthen a positive relationship with wetlands.

Cities Nominated for Accreditation

Udaipur

- **Located in Rajasthan, the city is surrounded by five major wetlands**, namely, Pichola, Fateh Sagar, Rang Sagar, Swaroop Sagar, and Doodh Talai.
- These **wetlands are an integral part of the city's culture** and identity, help maintain the city's microclimate, and provide a buffer from extreme events.

Bhopal

- **One of the cleanest cities in India that has proposed conservation zones** around the wetlands in its draft City Development Plan 2031.
- **Bhoj Wetland, Ramsar Site is the city's lifeline, equipped** with the world-class wetlands interpretation centre, Jal Tarang.

Indore

- **Founded by Holkars, Indore is the cleanest city in India and the recipient of** India's Smart City Award 2023 for its best sanitation, water, and urban environment.
- **Sirpur Lake, a Ramsar Site in the city, has** been recognized as an important site for water bird congregation and is being developed as a Bird Sanctuary.



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Biodiversity Heritage Sites

Context:

- The government recently declared 8.6 acres of green cover at Cantonment Railway Colony as a biodiversity heritage site — the second in Bengaluru after Gandhi Krishi Vigyan Kendra.
- The Government of Odisha has notified three Biodiversity Heritage Sites (BHS) i.e. Mandasaru Hills, Mahendragiri Hills and Gandhamardan Hills.

About: -

- Under Section 37 of Biological Diversity Act, 2002 the **State Government in consultation with local bodies may notify** the areas of biodiversity importance as Biodiversity Heritage Sites.
- The Biodiversity Heritage Sites are the well-defined areas that are unique, ecologically fragile ecosystems - terrestrial, coastal and inland waters and marine having rich biodiversity

Comprising of any one or more of the following components:

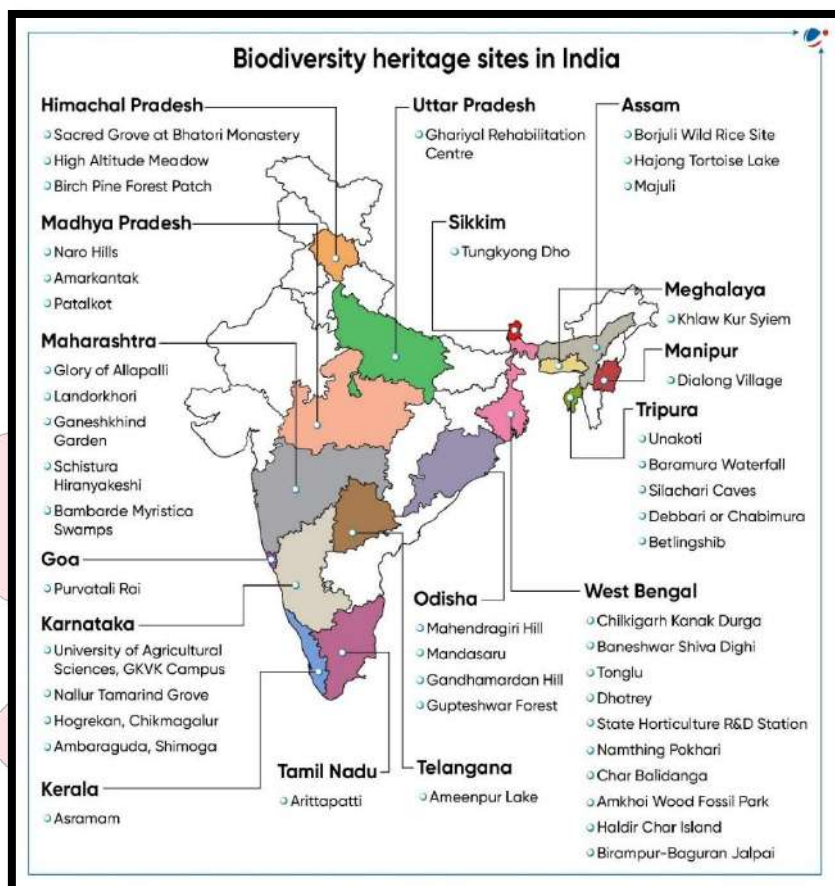
- Richness of wild as well as domesticated species or intra-specific categories
- High endemism presence of rare and threatened species.
- keystone species
- species of evolutionary significance
- wild ancestors of domestic/cultivated species or their varieties
- past pre-eminence of biological components represented by fossil beds
- having significant cultural, ethical or aesthetic values; important for the maintenance of cultural diversity (with or without a long history of human association with them)
- Total **36 sites** are notified till now.
- India's **first BHS Nallur Tamarind Grove is in Bengaluru** (Karnataka).

Management & Monitoring

- Management:** Biodiversity Management Committee or other appropriate institution as determined by relevant local body in the absence of BMCs.
- Monitoring of BHS:** There may be a State-level Monitoring Committee constituted by the SBB.

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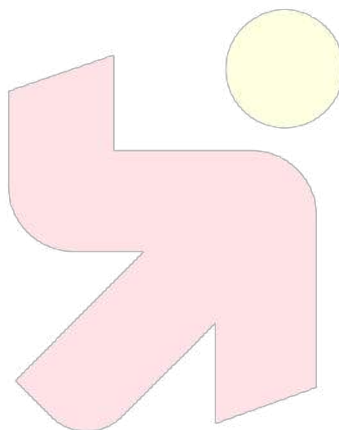
Latest Addition: -

Guneri's Inland Mangrove

- **Gujarat** has declared inland mangrove site in Guneri village, Kutch, as its first BHS.
- Situated 45 km from the Arabian Sea and 4 km from Kori Creek.
- **No seawater inflow, unique** compared to coastal mangroves.
- Only one of eight inland mangrove sites globally and the **last of its kind in India**.
- Houses 20 migratory and 25 resident avifaunal species.
- Situated on limestone deposits, Limestone-rich soil supports the ecosystem by providing a continuous groundwater supply.
- Likely formed during Miocene period or by ancient Saraswati River in Great Rann of Kachchh.

Kasampatty Biodiversity Heritage Site

- Tamil Nadu has **notified Kasam patty** (Veera Kovil) sacred grove and a biodiversity hotspot as a Biodiversity Heritage Site.
- Kasampatty, located near the Ala garmalai Reserve Forest in Kasam patty village (Dindigul district), becomes 2nd Biodiversity Heritage Site in Tamil Nadu **after Arittapatti in Madurai**.



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Conservation Reserve

Conservation Reserve: -

- A conservation reserve is an **area owned by the state government and is generally found adjacent to National parks and sanctuaries** and those areas that link one protected area with another.
- The **state government may after consulting local communities, declare any area as “Conservation Reserve” under section 36A of the Wild Life (Protection) Act 1972. (WPA 2023 Amendment empowers the Central government** to declare areas adjacent to National Parks and Wildlife Sanctuaries as Conservation Reserves for protecting flora and fauna, and their habitat.)
- Declaration as a conservation reserve ensures legal protection for the flora, fauna, and water bodies within the area.
- Such areas are designated as conservation reserves if they are uninhabited and completely owned by the GOI but used for subsistence by communities.
- Such areas are designated as community reserves if part of the land is privately owned.
- **Conservation Reserve Management Committee:** The act mandates the State Government to constitute a CRMC to advise the Chief Wildlife Warden to conserve, manage & maintain conservation reserve.
- **Activities:** Regulated low-impact activities; **hunting and habitat destruction are banned.**

Mugali-Apsarkonda Marine Sanctuary

Proposed marine sanctuary near Honnavar, Uttara Kannada district, covering approximately 14,000 acres, including mangrove forests.

Home to several endangered species found in coastal regions, it is crucial for marine life conservation in Karnataka's coastal ecosystems.

Community Reserves: -

- The **State Government can declare Community Reserves in any private or community land** where an individual or a community has volunteered to conserve wildlife and its habitat. Such land should not be comprised within a National Park, Sanctuary or Conservation Reserve.
- The rights of people living inside a Conservation Reserve and Community Reserve are not affected.
- **Protected Area (PA) has been defined in the Wildlife (Protection) Act of 1972.**
- Protected Areas include National Parks, Sanctuaries, Conservation Reserves and Community Reserves.

Eco-Sensitive Zones (ESZs): -

- ESZs are areas notified by the MoEF around national parks & wildlife sanctuaries. The purpose of the ESZ was to provide more protection to the parks and sanctuaries by acting as a shock absorber or transition zone to minimise forest depletion and human-animal conflict.
- The **National Wildlife Action Plan (2002-2016) of MoEF stipulated that state governments should declare land falling within 10 km of the boundaries of national parks and wildlife sanctuaries** as eco-fragile zones or ESZs **under the Environmental (Protection) Act, 1986.**
- The width of the ESZ and the type of regulation may vary from protected area to area. The GOI can also notify areas beyond 10 km as ESZs if they hold larger ecologically important “sensitive corridors”.
- The **Supreme Court in June 2022** directed that every protected forest, national park, and wildlife sanctuary across the country should have a mandatory eco-sensitive zone (ESZ) of a minimum of one km starting from their demarcated boundaries.
- The **Environment (Protection) Act, 1986 does not mention the word “Eco-Sensitive Zones”.** The act only states that GOI can restrict areas in which any industries, operations, or processes shall or shall not be carried out subject to certain safeguards. Besides, the Environment Rules, 1986 also states that GOI can prohibit or restrict the location of industries.

Activities Prohibited/Restricted/Allowed in ESZs: -

- **Prohibited:** commercial mining, setting of sawmills and industries causing pollution, commercial use of firewood & major hydropower projects are prohibited in ESZ areas. It also **bans tourism activities like flying over protected areas in an aircraft or hot air balloon** and discharge of effluents and solid waste in water bodies or terrestrial areas.
- **Regulated:** **felling of trees, drastic change in agriculture systems** and commercial use of natural water resources, including groundwater and **setting up of hotels and resorts** are the activities regulated in the areas.
- **Permitted:** **ongoing agriculture and horticulture practices** by local communities, rainwater harvesting, organic farming, adoption of green technology and use of renewables.

Latest Addition:**Greater Hessarghatta Grasslands Conservation Reserve**

- Karnataka approved declaration of Greater Hessarghatta Grasslands as a conservation reserve.
- Near Yelahanka, Bengaluru Urban district, it spans 5,678 acres, including 350 acres of remaining grassland and three large lakes.

Kumram Bheem Conservation Reserve

- Telangana declared tiger corridor area **connecting Kawal Tiger Reserve (Telangana) with Tadoba Andhari Tiger Reserve (Maharashtra)** as Kumram Bheem Conservation Reserve.
- It is a critical part of the wildlife corridor connecting Kawal with not only Tadoba but also Kanhargaoon, Tipeswar, and Chaprala wildlife sanctuaries in Maharashtra, as well as the **Indravati Tiger Reserve in Chhattisgarh**.

Tsarap Chu Conservation Reserve

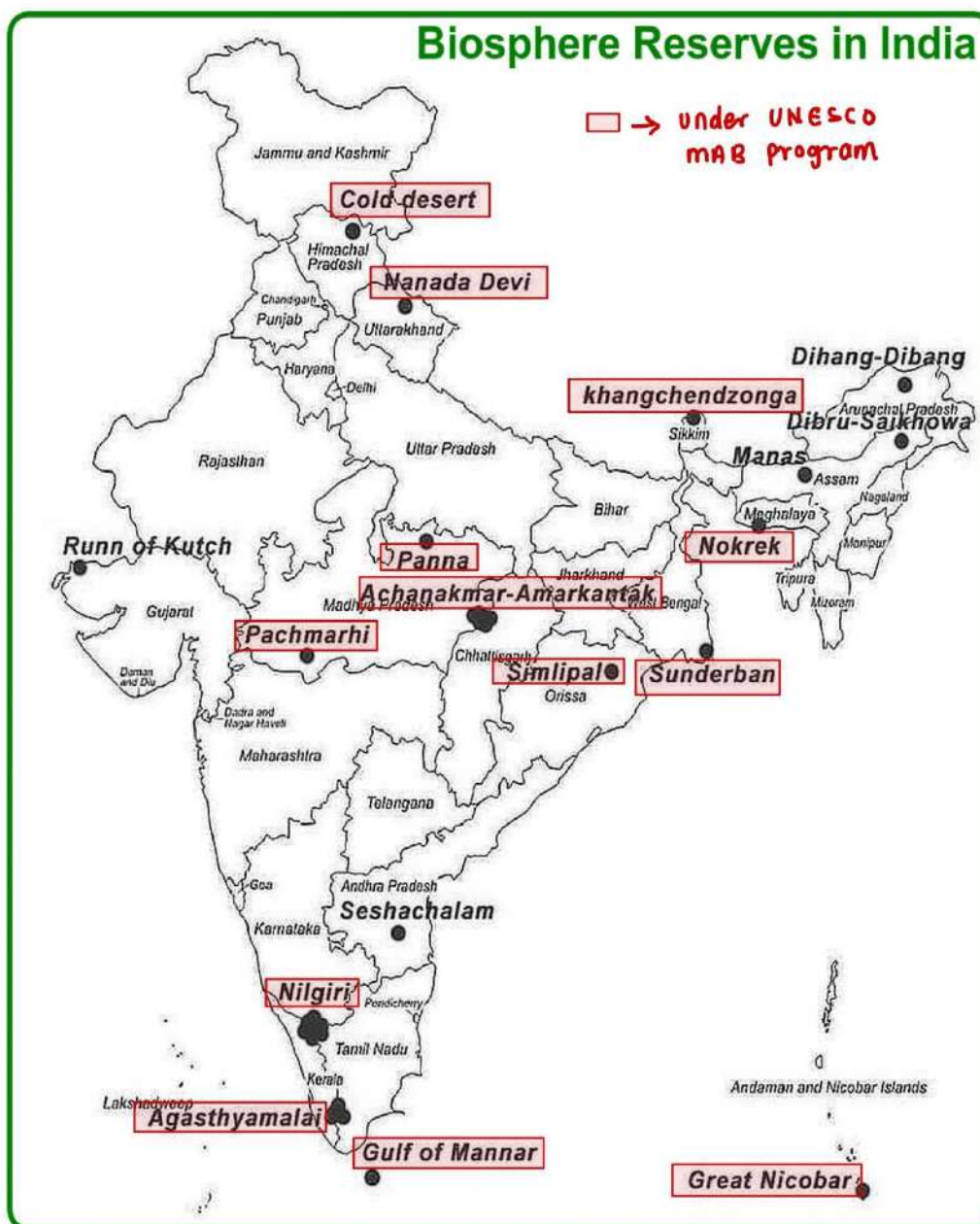
- **Himachal Pradesh** govt. notified Tsarap Chu Conservation Reserve.
- In Spiti Valley
- **India's largest high-altitude protected area:** 5th conservation reserve in HP.
- Borders UT of Ladakh (north), Kabjima Nala (south), Baralacha Pass (west), and the confluence of Unam River and Charap Nala.
- Located in a Trans-Himalayan biodiversity hotspot.
- Connects **Kibber Wildlife Sanctuary (east) and Chandratat Wildlife Sanctuary (west)**.
- Tsarap River flows through deep gorges & rugged terrain.

Biosphere Reserve

- **UNESCO** has included Himachal Pradesh's Cold Desert Biosphere Reserve in its World Network of Biosphere Reserves, making it India's 13th site in a global network of 785 reserves across 142 countries, approved at the 37th MAB Programme session in Paris.
- Also, **São Tomé and Príncipe** became 1st state with its entire territory designated as a biosphere reserve.

World Network of Biosphere Reserves

- The WNBR, created under **UNESCO's Man and the Biosphere (MAB) Programme in 1971**, designates sites that integrate core, buffer, and transition zones to balance conservation with sustainable use.
- Network promotes synergies between human societies and natural ecosystems, facilitating sustainable development.



1) Cold Desert Biosphere Reserve

- Location- Western Himalayan region in Himachal Pradesh
- **India's first high-altitude cold desert biosphere reserve, recognised as one of the coldest and driest ecosystems within UNESCO's WNB.**
- Declared a biosphere reserve in **2009**, it includes Pin Valley National Park, Chandratal, Sarchu and Kibber Wildlife Sanctuaries
- **Lies in the Himalayas, extending from Ladakh (Leh and Kargil districts) north to Kinnaur (including Spiti Valley and Kinnaur in Himachal Pradesh) in the south.**
- Climatic condition: It has cold, harsh climate with low mean annual rainfall leading to desert like conditions
- Major Fauna: Snow Leopard (VU), Himalayan Ibex (also referred to as Siberian Ibex – LC) Himalayan black bear, Himalayan blue sheep, snow pigeon, Tibetan gazelle, woolly hare etc
- Cold desert is listed under the **UNESCO's tentative Lists of States Parties which are published by the World Heritage Centre**

2) Nanda Devi Biosphere Reserve

- **Location- Uttarakhand**
- **Nanda Devi Biosphere Reserve** includes Nanda Devi NP and Valley of Flowers NP.
- Biosphere reserve is a unique transition zone between the mountain ranges of the Zaskar and the Great Himalayas.
- It contains the **catchment area of Alaknanda River and its tributaries**, including Rishi Ganga, Dhuli Ganga, Pushpapati, and Khir Ganga.
- Nanda Devi and Valley of Flowers National Park have been recognised under **Natural World Heritage Site by UNESCO**
- Nanda Devi Biosphere Reserve has been recognised by UNESCO under Man & Biosphere Programme
- **Major Fauna:** Snow Leopard (VU), Musk Deer (EN), Bharal or Blue Sheep (LC), etc

3) Khangchendzonga Biosphere Reserve

- **Location-Sikkim**
- This biosphere reserve is a **transboundary bio-diversity hotspot** conservation area.
- It includes the third highest mountain peak in the world, Kanchenjunga (8,586 m) and **It has Zemu Glacier (Source of River Teesta)**
- It is one of the highest ecosystems in the world, reaching elevations of 1,220 m to 8,586 m above sea level.
- Khangchendzonga NP, which **comprises the core area of the KBR, was inscribed as India's first "Mixed World Heritage Site"**
- Kanchenjunga National Park has been **recognised by UNESCO under Man & Biosphere Programme**
- It is Inhabited by **Lepcha Tribe**
- **Major Fauna:** Red Panda (EN), Snow Leopard (VU), Clouded leopard(VU), Musk Deer (EN), Great Tibetan Sheep (Argali – NT), etc.

4) Dihang-Dibang Biosphere Reserve

- **State-** Arunachal Pradesh
- The Mouling NP and the Dibang WLS are partly within this biosphere reserve.
- Terrain is rugged, with an altitudinal range of 750 to 3000 m at the highest point, the Mouling Peak.
- It also has Mishmi Hills
- **Major Fauna:** Takin (VU), Red Panda (EN), Flying Squirrel (CR)
- **Tribe:** Mishmi, Komkar and Milang
- **Vegetation-** Deciduous rainforest and in some part semi evergreen forest

- Famous for Red panda which is also a state animal of Sikkim. Red panda also found in Sikkim, WB and Arunachal. (Please note that Giant Panda which is not found in India is vulnerable)

5) Dibru Saikhowa Biosphere Reserve

- State- Assam (Smallest Biosphere reserve)
- Important Feature » It has largest Willow Swamp Forest in Northeast Region
- It is an identified Important Bird Area (IBA), notified by the Birdlife International.
- It is most famous for the rare white-winged wood ducks (Endangered by IUCN) as well as feral horses.
- It is also famous for Golden Langoor (Endangered by IUCN)
- Rivers Flowing through- Dehang, Lohit, and Debang
- Maguri Motapung wetland is a part of the Reserve.
- Tribes- Mishmi Tribe
- Major Fauna: Bengal Tiger, Clouded Leopard (VU), Gangetic Dolphin (EN), white-winged wood ducks (EN), **Hoolock Gibbon** (EN) etc

Hoolock Gibbon

About:

- Gibbons are the smallest and fastest of all apes.
- The hoolock gibbon is one of 20 species of apes and is the **only ape found in India**.
- Found in forested **areas of Northeast India**, Bangladesh, Myanmar and Southern China.
- Habitat:** They live in tropical and subtropical forests in the southeastern part of Asia.
- Population:** The estimated population of hoolock gibbons is 12,000.
- Threats:** Felling of trees for infrastructure projects.
- They are **diurnal and arboreal**. With slender, long arms, they swing from tree to tree in a mode of **locomotion known as Brachiation**. They can brachiate at speeds up to 55km/hr and can cover 6m in just one swing. They spend much of their time on the upper canopy of tall trees, **mostly the hollong**.



Western Hoolock Gibbon	Eastern Hoolock Gibbon
Distribution: Bangladesh, India (NE India) and Myanmar (west of the Chindwin River).	Distribution: Myanmar (east of the Chindwin River).
Habitat: Tropical evergreen rainforests, tropical evergreen and semi-evergreen forests, etc.	Habitat: Evergreen, scrub & semi-deciduous forests, mountainous broadleaf & pine forests.
IUCN: EN CITES: Appx II WPA: Sch I	IUCN: VU CITES: Appx II

Hollongapar Gibbon Sanctuary

- Hollongapar Gibbon Sanctuary is an **evergreen forest area located in the Jorhat district, Assam**.
- It is **home to the western hoolock gibbon and Bengal slow loris**, NE India's **only nocturnal primate**.
- Other primate species it shelters are the Assamese macaque, the capped langur, the northern pig-tailed macaque, the rhesus macaque, and the stump-tailed macaque.
- Concern:** It has become a forest island due to lost connectivity with surrounding forest patches.

PYQ

Consider the following pairs: (2010)

Protected area Well-known for

- 1) Bhitarkanika, Orissa - Salt Water Crocodile
- 2) Desert National Park, Rajasthan- Great Indian Bustard
- 3) Eravikulam, Kerala- Hoolock Gibbon

Which of the pairs given above is/are correctly matched?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 only
- (d) 1, 2 and 3

Lion-tailed Macaque-

- It is an Old-World monkey.
- It is an arboreal and diurnal creature, they sleep at night in trees (typically, high in the canopy of rainforest).
- These macaques are territorial and very communicative animals. One of the distinguishing features of this species is that males define the boundaries of their home ranges by calls.
- Overall, their communication system contains as many as 17 vocalisations.
- Diet: It is omnivorous and feed upon a wide variety of food, although fruits form the major part of their diet.

**Appearance -**

- The magnificent Lion-tailed macaque is named due to its lion-like, long, thin, and tufted tail. Also, they are characterised by the grey mane around their face.
- In the meantime, this animal is one of the smallest macaque species in the world.
- Distribution: It is endemic to evergreen rainforests of the southern part in Western Ghats, with its range passing through the three states of Karnataka, Kerala and Tamil Nadu.

Conservation Status -

- IUCN: **Endangered**
- CITES: Appendix I
- The Wildlife (Protection) Act, 1972: Schedule I
- Threats: Its population faces threats from habitat loss, fragmentation, and human encroachment.

Pangolin**Context: -**

- The World Pangolin Day 2025 is celebrated on the third Saturday of February.

About: -

- Pangolin (Scaly Anteater) is a nocturnal scaly skinned insectivorous mammal.
- They are often referred to as "scaly anteaters" due to their characteristic scales and their diet, which primarily consists of ants and termites.

- This burrow dwelling animal is the most trafficked mammal in the world.
- It is a terrestrial animal (but is capable of climbing trees and swims).
- **Threats:** Trafficking and hunting (for its meat and scales), habitat loss (esp., mining & quarrying, agriculture), etc.
- Pangolins are found in parts of Africa and Asia
- These scales are made of keratin, the same protein found in human hair and nails. They are the only known mammals with this feature.
- When threatened, pangolins can curl into a tight ball, with their scales forming a protective barrier.
- Their diet consists mainly of ants and termites, which they capture using their long tongues (A pangolin's tongue is longer than its body).
- Pangolins have no teeth; they chew with gravel and keratinous spines inside the stomach.
- Out of the eight species of pangolin, Indian Pangolin & Chinese Pangolin are found in India.

Chinese Pangolin (CR)

- Smaller scales
- Terminal scale is absent on the lower side of the tail.
- Distribution: Himalayan regions of Indian Subcontinent and mainland SE Asia. Found in NE and the Himalayan region of India.
- Habitat: Tropical forests, limestone, bamboo, broad leaf and coniferous forests, grasslands & farmlands.



Indian Pangolin (EN)

- Comparatively larger scales
- Terminal scale is present on the lower side of the tail.
- Distribution: Indian subcontinent south of Himalayas - Found from Himalayan foothills to the far south, except the far NE in India.
- Habitat: Tropical forests, open land, grasslands, arid areas, including in close proximity to villages



6) Nokrek Biosphere Reserve

- **State-** Meghalaya (on Garo Hills)
- Nokrek (1,412 m) is the highest peak of the Garo hills.
- **It Includes-** Nokrek National Park Balphakram National Park About
- It has Sejuk Caves (Important: Limestone Caves)
- **Tribes:** Garo Tribe
- Nokrek is a **hotspot** of biodiversity in Meghalaya.
- It has Napak Lake
- Nokrek Biosphere Reserve has been **recognised by UNESCO under Man & Biosphere Programme**
- **Vegetation:** Evergreen and semi-evergreen deciduous forests.
- **Key Fauna:** Red Panda (EN), Hoolock Gibbons (EN), Red Giant Flying Squirrel (LC), etc

7) Manas Biosphere Reserve

- Manas National Park is a national park, **UNESCO Natural World Heritage site, a Project Tiger reserve, an elephant reserve and a biosphere reserve in Assam, India**
- It is located in the Himalayan foothills.
- It is **contiguous with the Royal Manas National Park in Bhutan**
- Manas river flows thorough the west of the park and is the main river within it. It is a major tributary of Brahmaputra River **Rare and endemic wildlife: Assam Roofed Turtle (EN), Hispid Hare (EN), Golden Langur (EN) & Pygmy Hog (EN).**
- Manas is famous for its **population of the Wild Water Buffalo (EN) and Red Panda (EN)**
- It is one of the last grounds of Pigmy Hog (First It was Critically Endangered but last year IUCN Changed to Endangered species)
- Grassland biomes: Pygmy Hog, Rhinoceros (re introduced in 2007), elephants, Bengal florican (CR) etc.
- Manas river also serves as an international border dividing India and Bhutan

8) Panna Biosphere Reserve

- **Location**-Madhya Pradesh Uttar Pradesh Border
- It includes **Panna National Park and Ken Gharial Sanctuary**
- It also includes **Three** sections of the Gangau wildlife Sanctuary
- Panna National Park is also **declared as Panna Tiger Reserve**, on top of this, the entire area of Panna National Park and 3 parts of Gangau Wildlife Sanctuary have also been **notified as Critical Tiger Habitat Area.**
- **Ken river flows through this terrain.**
- Vindhya's hill runs in North-East to South-West Direction through Panna national park.
- This land is **full of plateaus and gorges out** of that notably it has Bundelkhand Plateau
- **Major Flora**-surrounded by natural boundaries like in the north, it is surrounded by teak forest & in the east, it is surrounded by Teak Kardhai mixed forest.
- **Major Fauna:** Tiger (EN), Chital (LC), Chinkara (LC), Sambar (VU). Two species of cats claim this region as their home: 1) Siyah Gosh (Felis caracal) and 2) Jungle cat (Felis chaus).
- Ken River flowing through the reserve is a **beautiful location to witness the beautiful songster that is the Indian Paradise Flycatcher.**

9) Achanakmar Amarkantak Biosphere Reserve

- Location- It extends across the **states of Madhya Pradesh and Chhattisgarh**
- Maikal hills together with eastern Vindhyas and Satpuras lie within the reserve.
- Achanakmar-Amarkantak Biosphere Reserve is a **major watershed of peninsular India.**
- It is source of **three major river systems: the Narmada, the Son River, and the Johilla.**
- Achanakmar-Amarkantak Biosphere Reserve has been **recognised by UNESCO under Man & Biosphere Programme**
- **Major Fauna:** Four Horned Antelope (Chausingha (VU)), Indian Wild Dog (VU), etc.
- **Vegetation:** moist deciduous and dry deciduous forests.

10) Pachmarhi Biosphere Reserve

- Location- Madhya Pradesh
- Name Pachmarhi is derived from the Hindi words "Panch" (five) and "Marhi" (caves) – the famous Pandav Caves
- It envelops three wildlife conservation units: Bori Sanctuary (485.72 sq. km), Satpura National Park (524.37 sq. km) Pachmarhi Sanctuary (417.78 sq km)
- Pachmarhi Biosphere Reserve has been **recognised by UNESCO under Man & Biosphere Programme**
- Pachmarhi Biosphere Reserve lies in the centre of the Satpura Range.
- The **highest peak is the Dhoopgarh** (1,352 m) and also has Mahadeo Hills

- Tawa River passes through it
- Gonds are the major tribal group, but Korkus tribes also live in the Pachmarhi area
- **Major Fauna:** Tiger, Gaur, Indian Giant Flying Squirrels (LC), etc » Major Flora-It is a natural junction of the two most important timber species Teak and Sal.

11) Great Rann of Kutch Biosphere Reserve

- The **Great Rann of Kutch is a salt marsh** in the Thar Desert.
- **Largest Biosphere Reserve of India**- It includes Kachchh Desert Sanctuary (in Great Rann of Kutch)
- **Wild Ass Sanctuary** (in Little Rann of Kutch), Narayan Sarovar Sanctuary
- Kutch Bustard Sanctuary + Banni Grasslands Reserve- **It has Banni Grassland.**
- **Tribe:** Agaria Tribe reside here- They protect the Wild Ass found here- Island are known as Byet Here and Rann of Kutch Lake has two Island: Paccham Island & Khadir Beyt- Dholavira is on Khadir Beyt-
- **Major Fauna:** Great Indian Bustard (CR), Indian Wild Ass (NT), sarus crane(VU), Greater Flamingo(LC)

12) Simlipal Biosphere Reserve

- It derives its name from Semul Tree (Red Silk Cotton Tree)
- It is a Tiger Reserve, Elephant Reserve also.
- It **includes Mayurbhanj Elephant Reserve** (Simlipal TR + Hadgarh WLS + Kuldiha WLS)
- **Major tribes:** Erenga, Kharias, Mankirdias, Ho, Gonda and Munda.
- **Major Fauna:** Royal Bengal Tigers, Wild Elephants (EN), Gaurs (VU – Indian Bison), Chausingha (VU)
- Barehipani Falls is in Simlipal National Park (Fall is on River Buddhabulanga which is tributary of R. Brahmani)
- River Buddhabulanga and River Khari passes from it.
- Simlipal Biosphere Reserve has been recognised by UNESCO under Man & Biosphere Programme
- Last year it Was in **news as Mankardia Tribe were removed form Simlipal National Park**

13) Sundarbans Biosphere Reserve

- **Location**-West Bengal
- It is located in the vast Delta of the Ganges, south of Kolkata and bordering Bangladesh in the east and it has Confluence of Ganga, Padma, Meghna River
- It has **Single Largest Block of Tidal Halophytic Mangrove**
- Sundarbans Biosphere Reserve = Sundarbans NP + Sajnekhali WLS + Lothian WLS + Haliday WLS.
- Sunderban Biosphere Reserve has been recognised by UNESCO under Man & Biosphere Programme
- Sundarban National Park has been recognised under Natural World Heritage Site by UNESCO
- It is also a **Ramsar Site.**
- It has **Sundri Tree**
- **Fauna**- Bengal tiger, estuarine crocodile, Indian python, Water monitor lizard, Gangetic dolphin, and olive ridley turtles
- It is facing threat from climate change and rise in sea level.

14) Seshachalam Hills Biosphere Reserve

- **Location**- Andhra Pradesh (First Biosphere Reserve in Andhra Pradesh)
- The Seshachalam Hills are part of the Eastern Ghats (south of Panna River) in southern Andhra Pradesh.
- Between Palikonda and Velikonda Hills and River Penneru passes from here
- **Tirupati**, a major Hindu pilgrimage town and Sri Venkateshwara NP and WLS are in these ranges.
- **Major Flora:** rare and endemic plant species like Red Sanders (EN) are of great economic importance. (like used in medicines, soaps, spiritual rituals)
- **Major Reptilian Fauna: Golden Gecko (LC – Endemic to Tirumala Hills)**
- It also has **Slender Loris Animal (EN)**
- **Major tribe- Yanadi Tribe**

15) Nilgiri Biosphere Reserve

- **Location**-Kerala, Karnataka and TamilNadu
- Nilgiris (blue mountain) got their **name from the purplish blue flowers of Neelakurinji** (blossoms once in 12 years)
- First Biosphere Reserve to be **declared under Man & Biosphere Programme of UNESCO**
- **Nilgiri Sub-Cluster (UNESCO World Heritage Site) includes** the Mudumalai NP(TN), Mukurthi NP(TN), Nagarhole NP(Karnataka), Bandipur NP(Karnataka) and Silent Valley national parks(Kerala), as well as the Aralam WLS(Kerala), Wayanad NP(Kerala) and Sathyamangalam wildlife sanctuaries(TN)
- Dodabetta is the highest peak of Nilgiri Mountain
- River Kabini, Bhavani, Kuntipuzha passes through it
- Vegetation: tropical evergreen forests (western side of Western Ghats), montane sholas and grasslands (at high altitudes), semi-evergreen forests, moist deciduous forests, dry deciduous forests, and thorn forests.
- Major Fauna: Lion Tailed Macaque (EN), Nilgiri Tahr (EN-Which is also State Animal of TN), Malabar Giant Squirrel (LC), Nilgiri Langur (VU), etc. » Major Tribes: Toda, Chettis, Irular etc



16) Agasthyamala Biosphere Reserve

- Lies in Kerala and TamilNadu- Agasthyamala BR includes Shendurney WLS + Peppara WLS + Neyyar WLS + Kalakad Mundanthurai TR.
- **Tribes**- Reserve is home to Kani tribes (Also known as Kannikaran Tribe) from both Tamil Nadu and Kerala.
- It is one of the oldest tribes in the world- Tamraparni River passes from it
- **Major Fauna:** Nilgiri Tahr (EN)

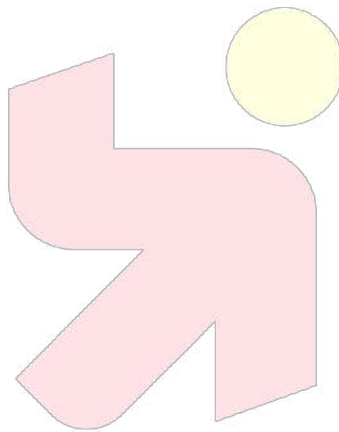
17) Gulf of Mannar Biosphere Reserve

- It is **1st marine Biosphere Reserve** in Asia
- It has been **recognised under Man & Biosphere Programme of UNESCO**- Lies between the west coast of Sri Lanka and the south-eastern tip of India, in the Coromandel Coast region.
- Chain of low 21 islands and reefs known as Ramsethu (Adam's Bridge), which includes Mannar Island, separates the Gulf of Mannar from Palk Bay, which lies to the north between Sri Lanka and India.
- Biosphere reserve comprises islands with estuaries, seagrasses, coral reefs, salt marshes and mangroves.
- **Major Fauna:** Dugong (VU), Olive Ridley turtles (VU), Green Turtle (EN)
- Sea Grass and sea cucumbers found here

18) Great Nicobar Biosphere Reserve

- Location- Andaman & Nicobar
- Great Nicobar Biosphere Reserve = Campbell Bay NP + Galathea National Park.
- Dugong and Sea Grass are found here
- It is 1st marine Biosphere Reserve in Asia
- It has been recognised under Man & Biosphere Programme of UNESCO
- Vegetation: tropical wet evergreen forests.

- Major Fauna: Dugong (VU), Saltwater Crocodile (LC), etc



PRAYAAS

Tiger Reserve

How is TR Declared?

- Tigers Reserves are declared by the National Tiger Conservation Authority via Wildlife (Protection) Amendment Act, 2006 under Project Tiger.
- To declare an area as Tiger Reserve, the **state governments can forward their proposals to NTCA.**
- The **Central Government via NTCA may also advise the state governments** to forward a proposal for creation of Tiger Reserves.
- **As per Wildlife protection act - State govt. Would notify** the tiger reserve areas based on the **recommendation of NTCA.**
- No alternation of boundary can be done **without the recommendation of National Board for Wildlife** and without the advice of the Tiger Conservation Authority.

Legally protected area under Project Tiger:

- Include both core zone and buffer zone.
- **Core Area (Critical Habitat):** Inviolable; no tourism or commercial activity.
- Buffer Zone: Regulated eco-development; limited tourism.

Tiger Corridors

- National **Tiger Conservation Authority (NTCA)** has **limited the definition** of tiger corridors to 32 "least cost pathways" identified in its 2014 report.
- This will make **obtaining mining clearances easier** but may threaten tiger connectivity and survival.
- **Least Cost Pathways are GIS-based** routes showing easiest, least resistant paths for tiger movement.
- Tiger corridors **are established under the Wildlife Protection Act of 1972 and require SC-NBWL (Standing Committee of the National Board for Wildlife) clearance for projects** within them.

Tiger Safari

- Controlled wildlife **enclosure within protected areas like** national parks or sanctuaries for viewing rescued, injured, or orphaned tigers.
- First envisaged in **Guidelines for Tourism issued by NTCA** in 2012.
- **Not defined under Wildlife (Protection) Act, 1972.**
- Construction inside sanctuaries requires approval from the National Board for Wildlife (NBWL).
- NTCA guidelines, 2016 permit the establishment of tiger safaris in buffer and fringe zones for conflict, rescued and zoo-bred tigers (permitted under Central Zoo Authority supervision).
- **SC, in 2024, directed that tiger safaris be established outside core & buffer areas of tiger reserves.**

National Tiger Conservation Authority (NTCA)

- NTCA was established in December 2005 following a recommendation of the Tiger Task Force.
- Wildlife (Protection) Amendment Act, 2006 provides for creating:
 - National Tiger Conservation Authority and
 - Tiger and Other Endangered Species Crime Control Bureau (**Wildlife Crime Control Bureau**).
- It administers Project Tiger.
- Tiger reserves in India are administered by field directors as mandated by NTCA.
- **No alteration in the boundaries of a tiger reserve shall be made except on a recommendation of the NTCA and the approval of the National Board for Wildlife.**
- **No State Government shall de-notify a tiger reserve, except in public interest with the approval of the NTCA and the approval of the National Board for Wildlife**

NTCA members

- NTCA was set up under the **Chairmanship of the Minister for Environment and Forests.**
- The Authority will have

- eight experts having qualifications in wildlife conservation and welfare tribals,
- **3 MPs,**
- The Inspector-General of Forests, in charge of project Tiger, will be ex-officio Member Secretary
- Others

Functions of NTCA

- Authority lays down standards, guidelines for tiger conservation in the Tiger Reserves, National Parks and Sanctuaries.
- Authority would be required to prepare an Annual Report, which would be laid in the Parliament along with the Audit Report.
- **State level Steering Committees will be set up in the Tiger States under the Chairmanship of respective Chief Ministers.**

Project Tiger (PT)

- In 1973, Project Tiger was launched in Jim Corbett National Park of Uttarakhand, and various tiger reserves were created since then based on a core-buffer strategy.
- Tiger reserves are governed by the Project Tiger (1973).
- It is a Centrally Sponsored Scheme of the Ministry of Environment and Forests.
- It is **administered by** Statutory body the National Tiger Conservation Authority
- Overarching supervisory/coordination role and approves the Tiger Conservation Plan **prepared by the State Governments.**
- **Funding pattern:** Centre provides financial assistance to States of 60% and 50% for expenditure on all non-recurring items and recurring items respectively.
- North-eastern and Himalayan States are provided 90% central assistance in both cases.
- Special Tiger Protection Force (STPF) deployed in several TRs for focused anti-poaching operations.
- **E-Bird** project uses Unmanned Aerial Vehicles (UAV) for Surveillance and Monitoring.

Core and Buffer Zones in Tiger Reserves

- Core areas are notified by the State Government in consultation with an Expert Committee
- Core areas are freed of all human activities (but some tribes still continue to live in the core area (illegally). However, they do not possess any forest rights).
- Collection of minor forest produce, grazing, and other human disturbances are not allowed.
- It has the legal status of a national park or wildlife sanctuary.
- **Soligas of Karnataka's Chamarajnagar district created history by becoming the first tribal community living in the core area of a tiger reserve to get their forest rights recognize**
- Buffer zone is the area peripheral to the critical tiger habitat or core area providing supplementary habitat for dispersing tigers, besides offering scope for co-existence of human activity (tribals)

Tiger Outside Tiger Reserve Scheme

- **CAMPA approved one-year pilot funding** for a scheme to manage human-tiger conflict outside tiger reserves.
- **Implemented jointly by** the National Tiger Conservation Authority (NTCA) and the state Chief Wildlife Wardens in 80 forest divisions across 10 conflict-prone states.
- **Objective:** Strengthen real-time monitoring, enable quick tech-based intervention, & augment wild prey base.

Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

- Manages National Compensatory Afforestation Fund (NCAF), which is funded through charges levied for forest land diversion under the Forest (Conservation) Act, 1980.
- Financed major projects like Project Cheetah & Great Indian Bustard Recovery Plan.

TR in News

Madhav National Park

- Country's 58th & Madhya Pradesh's 9th TR [57th TR- Ratapani Wildlife Sanctuary, MP]
- Location: Shivpuri district and is a part of the upper Vindhyan hills.
- Was hunting ground of Mughal emperors and Maharaja of Gwalior.
- Got status of a National Park in 1958.
- Vegetation: Tropical dry deciduous mixed forest as well as Dry thorn forest.
- Fauna:** Nilgai, Chinkara, Chowsinga, Chital, Barking Deer, Leopard, Jackal, Porcupine etc.
- Flora:** Kardhai, Salai, Dhaora and Khair. etc
- Sakhya Sagar, a human-made reservoir within the Madhav National Park, is a Ramsar site.**

Facts important for Prelims

- There are **58 tigers reserves in India**. These are governed by Project Tiger which is administered by the National Tiger Conservation Authority (NTCA).
- Bandipur Tiger Reserve in Karnataka** is the first tiger reserve in India
- 58th - Madhav Tiger Reserve** (9th in MP)

Centre merged Project Tiger and Project Elephant:

- After the merger, a new division named 'Project Tiger and Elephant Division' (PT&E) has been created under the Ministry of Environment, Forest, and Climate Change (MoEF&CC).
- The staff and divisional **heads of Project Elephant (PE) will now report to the additional director general of forests (ADGF), Project Tiger (PT)**, who has now been designated as ADGF (PT&E).
- Reason for the merger is to **rationalize funding for both conservation projects.**

49	Orang	-	Assam	2016
50	Kamlang	-	Arunachal Pradesh	2017
51	Srivilliputhur Megamalai	-	Tamil Nadu	2021
52	Ramgarh Vishdhari Tiger Reserve	-	Rajasthan	2022
53	Ranipur Tiger Reserve	-	Uttar Pradesh	2022
54	Veerangana Durgavati Tiger Reserve	-	Madhya Pradesh	2023
55	Dholpur - Karauli Tiger Reserve	-	Rajasthan	2023
56	Guru Ghasidas - Tamor Pingla Tiger Reserve	-	Chhattisgarh	2024
57	Ratapani Tiger Reserve	-	Madhya Pradesh	2024

Periyar Tiger Reserve

- Situated in Cardamom and Pandalam Hills of southern Western Ghats, near border with Tamil Nadu.
- Has hilly & uneven landscape, with Kottamala (~2000 m) being highest point.
- Periyar and Pamba rivers drain the reserve.
- Flora:** Tropical evergreen, deciduous, grassland, & montane shola forests. Teak, rosewood, sandalwood, etc.
- Major tribes in the area:** Mannans, Paliyans, Uralis, and Mala-arayas.
- Fauna:** Tigers, elephants, gaur, Nilgiri langurs, lion-tailed macaques, Malabar civets, etc.

Palamau Tiger Reserve

Context: -

- Jharkhand plans to establish its 1st tiger safari in the fringe area of Barwadih Western Forest Range **within Palamau Tiger Reserve.**

About: -

- Located on the **western Chotanagpur Plateau**, spanning Latehar & Garhwa districts in Jharkhand.
- It is the only tiger reserve in the state of Jharkhand.

- **Part of Betla National Park**, it was among the first nine tiger reserves established under Project Tiger.
- Geological formation consists of gneiss and includes granite and limestone. The region is drought-prone but rich in minerals, such as bauxite and coal.
- **Crossed by 3 rivers**: North Koyal, Auranga, and Burha (only perennial river).
- **Flora**: Dominated by moist & dry deciduous forests, primarily Sal & bamboo.
- **Fauna**: Royal Bengal tiger, Asiatic elephant, leopard, grey wolf, dhole (wild dog), gaur (Indian bison), sloth bear, and four-horned antelope.

Indravati Tiger Reserve

- Smooth-coated otter recorded after 25 years.
- **Location**: Bijapur district, Chhattisgarh; tropical moist & mixed deciduous forests.
- One of the last surviving populations of Wild Asian Buffalo (state animal of Chhattisgarh).
- **Fauna**: Tiger, leopard, Indian gaur, nilgai, blackbuck, sloth bear, dhole.
- **Flora**: Teak, sal, bamboo, mahua, tendu.
- **Indravati River (perennial) flows east** to west, forming the northern boundary and **interstate border with Maharashtra**.

Pakke Tiger Reserve

- Established as Pakhui Sanctuary (1966) → Game Sanctuary (1977) → Pakhui WLS (2001).
- Declared 26th Tiger Reserve (2002).
- **Location**: East Kameng district, Arunachal Pradesh; Eastern Himalayan foothills (Assam plains–hill forest transition).
- **Boundaries**: Kameng (Bhareli) River (west & north), Pakke River (east), Brahmaputra (south).
- **Adjoins**: Nameri NP (Assam), Eaglenest WLS & Sessa Orchid Sanctuary.
- **Fauna**: Bengal tiger, Assam roofed turtle, clouded leopard, Himalayan black bear, golden cat, hornbills, Assamese macaque.
- **Flora**: Mango, jamun, sal, arjuna, bamboo, kadam, neem.
- Known for Hornbill Nest Adoption Programme.

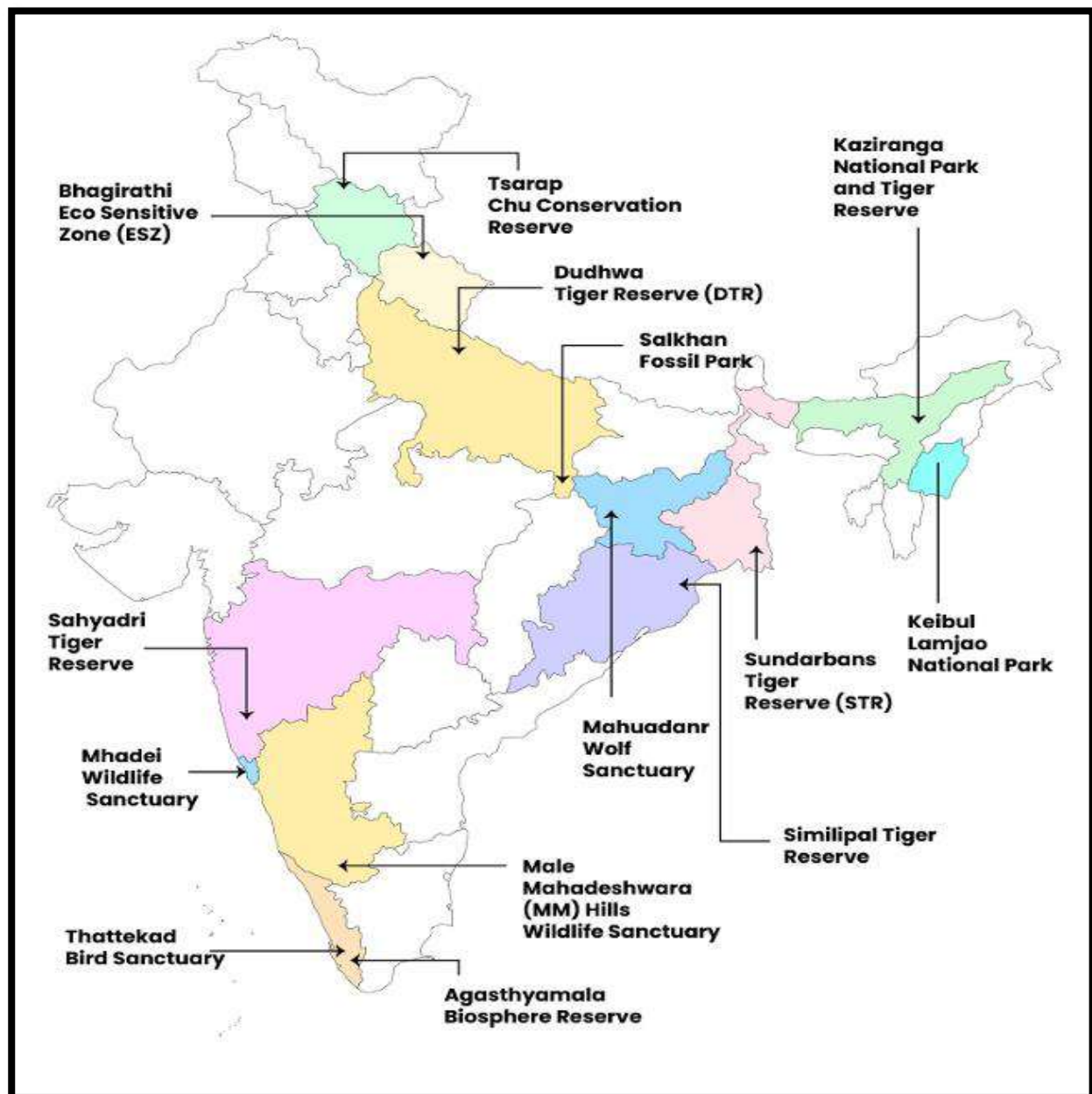
Sariska Tiger Reserve

- Rajasthan proposes redrawing Sariska's Critical Tiger Habitat (CTH).
- Location: Rajasthan, Aravalli Hills; rocky hills, scrub, grasslands & dry deciduous forests; semi-arid climate.
- Ruparail River flows through it; vegetation dominated by dhok trees (~90%).
- Part of Northern Aravalli wildlife corridor; mineral deposits of marble, dolomite, limestone & masonry stone.
- First reserve globally to reintroduce tigers after local extinction (from 2008).
- Kankawadi Fort (at centre): Aurangzeb imprisoned Dara Shikoh here.

Satkosia Tiger Reserve

- Odisha to launch its first captive breeding programme for Sambar deer here.
- Satkosia TR = Satkosia Gorge WLS + Baisipalli WLS.
- Location: Eastern Ghats, where Mahanadi River cuts a long gorge; part of the Mahanadi Elephant Reserve.
- Vegetation: Moist deciduous & riverine forests.
- Fauna: Leopard, Indian wild dog (dhole), sloth bear, Asian elephant, Bengal tiger.

Other Protected Areas in News





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