

PT TRICKS 2023 Environment Animals-2

Covering: Basic concepts- current- terms and application NOTE: FOR ALL EXAMINATIONS

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Eastern Swamp Deer

- Recently, the population of the vulnerable eastern swamp deer has dipped in the Kaziranga National Park and Tiger Reserve (Assam).
- The eastern swamp deer is extinct elsewhere in South Asia.
- There are three subspecies of swamp deer found in the Indian Subcontinent. \Box
 - o The western swamp deer (Rucervus duvaucelii) found in Nepal. □
 - \circ Southern swamp deer/Hard Ground Barasingha (Rucervus duvaucelii branderi) found in central and north India. \square
 - Eastern swamp deer (Rucervus duvaucelii ranjitsinhi) found in the Kaziranga (Assam) and Dudhwa National Parks (Uttar Pradesh).
- IUCN Red List: Vulnerable □
- CITES: Appendix I □
- Wildlife Protection Act. 1972: Schedule I

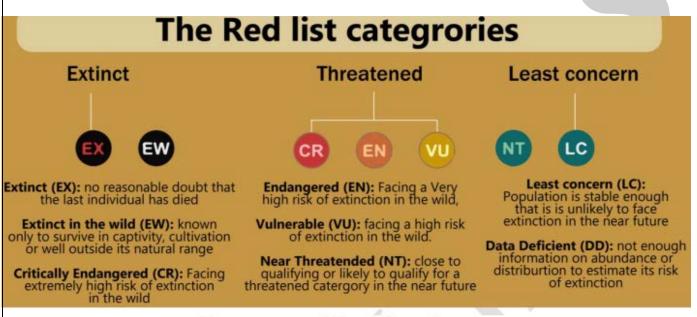
CHEETAH REINTRODUCTION PLAN

- Recently, The Government of India has decided to reintroduce Cheetahs in National Parks over five years, under 'Action Plan for Introduction of Cheetah in India'
- Cheetah is the only large carnivore that got completely wiped out from India in 1952, mainly due to over-hunting and habitat loss.
- The locally extinct cheetah-subspecies of India is found in Iran and is categorized as critically endangered.
- Sites recommended:
 - o Kuno Palpur National Park (KNP) in Madhya Pradesh
 - o Nauradehi Wildlife Sanctuary
 - o Gandhi Sagar Wildlife Sanctuary Bhainsrorgarh Wildlife Sanctuary complex Madhya Pradesh
 - o Shahgarh bulge in Jaisalmer,
 - o Mukundara Tiger Reserve as fenced enclosure, Rajasthan



RED SANDERS

- Red Sanders (Red Sandalwood) has fallen back into the 'Endangered' category in the IUCN Red List.
- Red Sanders is an Indian endemic tree species, with a restricted geographical range in the Eastern Ghats of India
- It has been assessed as 'Endangered' as per the IUCN criteria and scheduled in appendix II of CITES and Wildlife Protection Act.
- In 2019, the Directorate General of Foreign Trade, permitted the export of red sander timber, if it is obtained from cultivated land.



Features of Red Sanders

() Morphological characteristics	Floral characteristics	Varieties	Distribution	Climate and Soil
It is a deciduous tree with clear trunk and dense rounded crown. It is a small tree that grows to 5-8 meters in height and has a dark grayish bark. The inner bark, when injured or cut, oozes red coloured 'santolin' dye. The wood is extremely hard and dark red in colour.	The flowers of the species are yellow, densely arranged. Flowering occurs from February to April. Pods are formed rapidly but get ripened in next February-March. There is only one seed per pod, and red- dish brown in colour.	In nature, two types of trees are observed— Wavy grained Straight The wavy grained wood is more in demand in trade and is preferred for commercial plantation.	It is distributed in peninsular India and Sri Lanka. It occurs in patches in tropical dry deciduous forests, towards South-Eastern Ghats.	Well-drained red soils with gravelled loam are suitable for the cultivation of Lal Chandan species. It regenerates well in dry hot climate and requires rainfall ranging from 800 mm to 1000 mm annually for good growth.

BIODIVERCITIES BY 2030

- The World Economic Forum published a report titled 'BiodiverCities by 2030: Transforming cities' relationship with nature' developed as an output of the BiodiverCities by 2030 initiative.
- BiodiverCities by 2030 initiative is a joint initiative of the World Economic Forum and the Government of Colombia.
- It aims to support city governments, businesses and citizens, to enable cities to live in harmony with nature by 2030
- The report examines the relationship between cities and nature and provides a clear path for city leaders to embrace the BiodiverCities by 2030 vision and increase urban competitiveness and liveability through nature

SIXTH MASS EXTINCTION

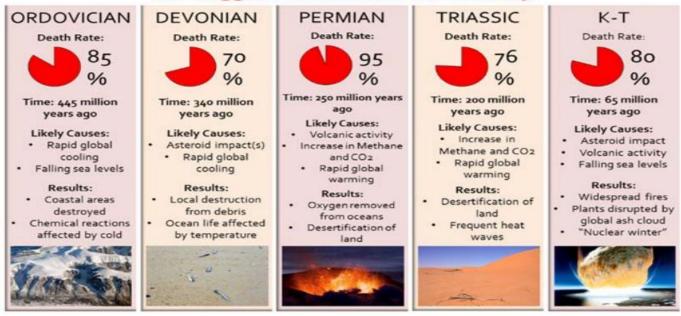
- Mass extinction event is usually defined as about 75% of the world's species being lost in a 'short' amount of geological time - less than 2.8 million years
- There have been five mass extinctions so far. However, all of those were caused by natural phenomena.
- This time, it is being caused entirely by humans and hence referred to as Anthropocene

Causes of mass extinction:

- Rising climate change
- Geologic catastrophes (volcanic eruptions, asteroid hitting Earth).
- Invasive species.
- Overconsumption of resources.
- Agriculture, leading to diminishing wild spaces and driving out species from their natural habitats

MASS EXTINCTIONS:

The biggest disasters in history



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ASIA MINISTERIAL CONFERENCE (AMC) ON TIGER CONSERVATION

- AMC is a meeting of thirteen tiger range countries (TRC) to discuss the plight and plans for conservation of the wild Tiger population.
- TRCs consist of Malaysia, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Laos, Myanmar, Nepal, Russia, Thailand, and Vietnam.
- According to the St. Petersburg Declaration on Tiger Conservation (2010), Global Tiger Recovery Programme (GTRP) envisages doubling the wild tiger population by 2022.
- Under Project Tiger (launched in 1973), India has achieved the remarkable feat of doubling the tiger population in 2018 itself.
- India has 70% of the world's tiger population.
- Being top predators in an ecosystem, Tigers are vital in regulating and perpetuating ecological processes.

Bhungloti

- Bhungloti is a creeper that in combination with the pith of the roots of a jackfruit tree yielded a saffron dye.
- This was mainly used by Buddhist Bhikkus in Assam.
- A Buddhist village in eastern Assam's Charaideo district has also adopted a forest to preserve this- Chala Reserve Forest.

Gherkins

- India has emerged as the largest exporter of gherkins in the world.
- Also known as pickling cucumber.
- Nearly 15% production of the world's gherkin requirement is grown in India.

Living root bridges

- Also known as Jing Kieng Jri, these are aerial bridges built by weaving and manipulating the roots of the Indian rubber tree
- They have been serving as connectors for generations in Meghalaya.
- Built over centuries, the bridges, primarily a means to cross streams and rivers, have also become world-famous tourist attractions.

Gharials

- The Assam government wants to increase Orang National Park more than thrice its existing size for conserving Gharials.
- India has three species of Crocodilians namely:
 - o Gharial: IUCN Red ListCritically Endangered.
 - o Mugger crocodile: IUCNVulnerable.
 - o Saltwater crocodile: IUCN- Least Concern.
- Natural Habitat: Fresh waters of the northern part of India. \Box
- Primary Habitat: Chambal river (a tributary of Yamuna). □
- Secondary Habitat: Ghagra, Gandak river, Girwa river (Uttar Pradesh), the Ramganga river (Uttarakhand) and the Sone river (Bihar).
- Significance: Population of Gharials are a good indicator of clean river water.
- Conservation Efforts: Kukrail Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh, National Chambal Sanctuary (Gharial Eco Park, Madhya Pradesh).

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DUGONG

- Tamil Nadu has declared India's first dugong conservation reserve in the Gulf of Mannar and the adjacent Palk Bay
- The dugong is a species of sea cow found throughout the warm latitudes of the Indian and western Pacific Oceans
- they graze on seagrass, which forms meadows in sheltered coastal waters.
- Seagrass ecosystems in India are classified as Ecologically Sensitive Areas under the Coastal Regulation Zone Act 1986
- the dugong is strictly a marine mammal. These are more closely related to elephants than to other marine mammals such as whales and dolphins.
- Dugongs are long-lived, and the oldest recorded specimen reached age 73
- they are social animals, they are usually solitary or found in pairs due to the inability of seagrass beds to support large populations.
- They are shy and donot approach humans.



KAZIRANGA NATIONAL PARK- A NET CARBON EMITTER

- According to research conducted by Indian Institute of Tropical Meteorology and Tezpur University, KNP is releasing more carbon than it is absorbing.
- The unique soil of the KNP's deciduous forest is home to a large population of bacteria that release CO2 as they breathe.
- Further, ability of forest to absorb CO2 decreases as the photosynthetic activity of trees during the monsoon decreases due to increased cloud cover.
- KNP was declared as a World Heritage Site by UNESCO (1985) and has the largestpopulation of the one-horned rhinoceros in the world.
- Also, it is a Tiger Reserve and an Important Bird Area

WHITE CHEEKED MACAQUE

- Scientists recorded presence of White-Cheeked Macaque from Arunachal Pradesh in India
- The species was first discovered in 2015 in China and its existence was not known in India before this
- They have distinct white cheeks, long and thick hairon neck and longer tail than other Macaque species.
- They have not been yet included in the Wildlife (Protection) Act, 1972 of India. Its conservation status is not yet determined.

Saltwater Crocodile

- Saltwater Crocodiles used to be found in Vietnam and southern China but became extinct in these areas due to human activity
- Saltwater Crocodile is the largest of the 23 species of 'extant' or living crocodilians
- It is typically found in the brackish water of estuaries
- It can also tolerate saltwater in the oceans and can travel long distances over the open ocean, making use of tidal currents.
- The 'saltie' is today found in three locations in India the Sundarbans, Bhitarkanika National Park and the Andaman and Nicobar Islands. \Box
- It is one of the three crocodiles native to the Indian Subcontinent, along with the mugger crocodile and the gharial
- It is also found in Bangladesh, Malaysia, Indonesia, Brunei, the Philippines, Papua New Guinea, Australia and the Solomon Islands
- **IUCN List of Threatened Species: Least Concern**
- CITES: Appendix I (except the populations of Australia, Indonesia and Papua New Guinea, which are included in Appendix II).
- Wildlife Protection Act, 1972: Schedule I

Army Tag for New Gecko

- A team of herpetologists have recorded a new species of bent-toed gecko from Umroi Military Station in Meghalaya
- Geckos are reptiles and are found on all the continents except Antarctica.
- These colorful lizards have adapted to habitats from rainforests, to deserts, to cold mountain slopes.
- Over a long period of time, geckos have developed special physical features to help them survive and avoid predators.
- Gecko tails serve many purposes. They help balance their weight as they climb branches, they act as fuel tanks to store fat, and as camouflage to help them disappear into their environment.
- Geckos are also able to shed their tails if a predator grabs them.
- There are many species of geckos. Depending on the species, their endangered status can range from least concern to critically endangered.

Dholes

- Presence of dholes or Asiatic wild dogs found in the high mountains of Central Asia nearly 30 years after their presence was last recorded.
- The animals have been discovered in the Bek-Tosot Conservancy in southern Kyrgyzstan
- Dhole is a wild carnivorous animal and In India, they are found in three clusters across India namely the Western and Eastern Ghats, central Indian landscape and North East
- Karnataka, Maharashtra and Madhya Pradesh rank high in the conservation of the endangered dhole in India
- Dholes play an important role as apex predators in forest ecosystems.
- **IUCN List of Threatened Species: Endangered**
- CITES: Appendix II
- Wildlife Protection Act, 1972 : Schedule II

Golden Langur

- Kajoijana Bamuni Hill Wildlife Sanctuary (Assam) is one of the better-known homes of the
- It has been noted that their fur changes colors according to the seasons as well as geography
- They are highly dependent on trees, living in the upper canopy of forests.
- They are also known as leaf monkeys.
- Habitat: It is endemic to western Assam, India, and southern Bhutan.
- Their habitat is restricted to the region surrounded by four geographical landmarks: the foothills of Bhutan (North), Manas river (East), Sankosh river (West), and Brahmaputra river (South).
- IUCN List of Threatened Species: Endangered \Box
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix I \square
- Wildlife Protection Act, 1972 : Schedule I

Koalas as Endangered Species: Australia

- Australia has officially classified koalas as 'endangered'.
- During the catastrophic 2019 bushfires in Australia, now known as the 'Black Summer', an estimated 60,000 koalas were impacted.
- Another major threat is the spread of chlamydia, a sexually transmitted disease known to cause blindness and cysts in the koalas
- Koala is an arboreal (lives in trees) marsupial.
- A marsupial is born in a very incomplete state. Instead of the placenta, the mother's milk nourishes the young and allows it to grow and develop.
- The typical habitat for Koalas is open eucalypt woodlands, and the leaves of these trees make up most of their diet.
- They are endemic to Australia.
- Due to the low nutrient levels of the Eucalyptus leaves they feed on, the koala can sleep up to 18 hours each day.
- **IUCN status: Vulnerable**

Sea Cucumber

- Sea cucumber in India is treated as an endangered species listed under schedule I of Wildlife Protection Act of 1972
- They are marine invertebrates that live on the seafloor found generally in tropical regions
- They are an integral part of the coral ecosystem as one of the main by-products of the sea cucumbers digestion of sand is calcium carbonate and this is essential for the survival of the coral reefs.
- They act like garbage collectors of the ocean world, and they recycle nutrients, thus playing an important role in keeping coral reefs in good condition
- Sea cucumbers are in high demand in China and Southeast Asia. It is primarily smuggled.
- IUCN Red List: Brown Sea Cucumber (Endangered), Blackspotted Sea Cucumber (Least Concern)

Kawal Tiger Reserve

The Kawal Tiger Reserve hosted a 'Bird Walk' event.

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- The reserve is the oldest sanctuary in the northern Telangana region of the state.
- This sanctuary is catchment for the rivers Godavari and Kadam.
- The sanctuary is one of the richest teak forests in the state, with dense pristine areas free of human disturbance.







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Indian Tent Turtles

- There are reports to indicate that the Indian tent turtle is on the verge of extinction due to illegal mining in the Narmada River.
- The Indian tent turtle is listed in Schedule –I of the Wild Life (Protection) Act, 1972
- The males are smaller than the females in size and have longer and thicker
- It is a species of turtle that is native to India, Nepal and Bangladesh
- IUCN: Lower Risk/ least concern

Mugger Crocodile

The Indian Railways delivered water to Pali district in western Rajasthan to ensure survival of Mugger Crocodile or Marsh Crocodile as the region's water bodies dried up.

Crocodile species in India - AspireIAS

Palmking

- A rare butterfly Palmking was recently sighted for the first time in Tamil Nadu.
- It is not easy to spot a Palmking because its wood colour makes for easy camouflage and it rarely spreads its wings
- This butterfly is widely distributed across parts of India, Myanmar, Indo China, Peninsular Malaysia and Thailand
- In India, Palmking sightings were recorded in the forests of Arippa, Shendurney, Periyar Tiger Reserve in the south of Western Ghats.

Dolphin Population in Chilika Lake

- Irrawaddy dolphins are found in coastal areas in South and Southeast Asia, and in three rivers: the Ayeyarwady (Myanmar), the Mahakam (Indonesian Borneo) and the Mekong
- Conservation Status: IUCN Red List: Endangered; CITES: Appendix I; Wildlife Protection Act, 1972: Schedule I
- Chilika is Asia's largest and world's second largest lagoon
- It spreads over Puri, Khurda and Ganjam districts of Odisha on the east coast of India, at the mouth of the Daya River
- In 1981, Chilika Lake was designated the first Indian wetland of international importance under the Ramsar Convention
- The large Nalabana Island in the lagoon area was declared a bird sanctuary in
- Kalijai Temple Located on an island in the Chilika Lake

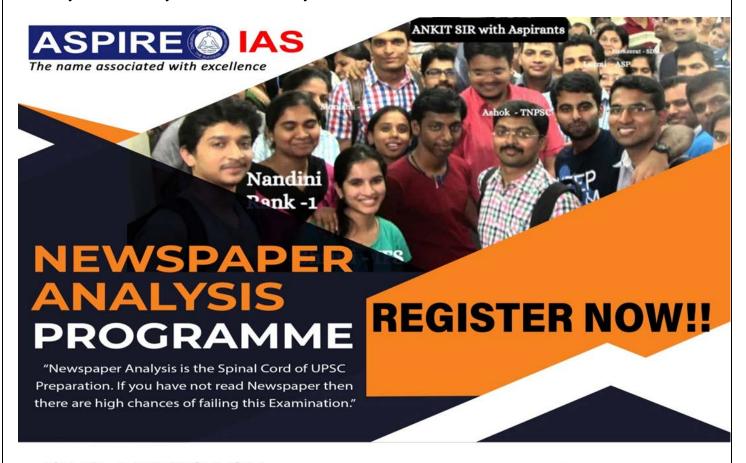
Project Dolphin - AspireIAS

https://www.worldwildlife.org/stories/freshwater-dolphin-species-and-facts

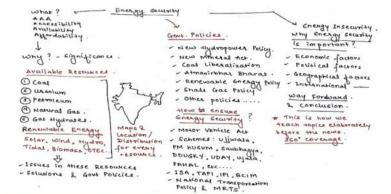
SEAWEED PARK WITH SPECIAL ECONOMIC ZONE STATUS IN TAMIL **NADU**

- A seaweed park will be set up in Tamil Nadu to improve the livelihood of fishermen.
- It will be implemented under the Prime Minister's Matsya Sampada Yojana
- Seaweeds, the primitive, marine non-flowering marine algae without root, stem, and leaves, plays a major role in marine ecosystems
- Large seaweeds form dense underwater forests known as kelp forests, which act as underwater nurseries for fish, snails and sea urchins.
- Found mostly in intertidal region (Southern Gulf of Mannar), shallow and deep waters of the sea and estuaries and backwaters.
- Storehouse of nutrients like iron, zinc, magnesium, riboflavin, thiamine, vitamin A. B. C & K etc.
- Act as a bio-indicator and balance out the ecosystem.
- Mitigating climate change.
- Used as fertilizers and to increase fish production.
- Can be buried in beach dunes to combat beach erosion.
- Used as an ingredient in preparing toothpaste, cosmetics and paints.
- Government also runs a Seaweed Mission, launched by Technology Information, Forecasting and Assessment Council (TIFAC), for commercial farming of seaweeds and its processing





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Fishing Cats

- Census conducted around Chilika Lake records 176 Fishing Cats. The Census was conducted in Collaboration with The Fishing Cat Project (TFCP).
- This is the world's first population estimation of the fishing cat, which has been conducted outside the protected area network
- Spatially Explicit Capture Recapture (SECR) method was used to analyze the data. SECR is used to estimate the density of an animal population from capture—recapture data collected using an array of 'detectors'
- The fishing cat is nocturnal and breed all year around
- They spend most of their lives in areas of dense vegetation close to water bodies and are excellent swimmers
- Fishing cats have a patchy distribution along the Eastern Ghats. They abound in estuarine floodplains, tidal mangrove forests and also inland freshwater habitats
- UCN Red List: Vulnerable
- CITES: Appendix II

 Indian Wildlife Protection Act, 1972: Schedule I

Maya's Pit Viper

- a new venomous green snake Maya's Pit viper was discovered in Meghalaya.
- Pit viper, any species of viper that has, in addition to two movable fangs, a heatsensitive pit organ between each eye and nostril which together help it accurately aim its strike at its warm-blooded prey
- Pit vipers are found from deserts to rainforests. □
- They may be terrestrial, arboreal, or aquatic. Some species lay eggs; others produce live
- Russell's Viper and Saw-scaled Viper are two most venomous vipers species found in India.

Grev Slender Loris

- Slender Loris is a species of primate.
- The Grey slender loris is a nocturnal animal. It is also a slow-moving animal
- They are found in tropical rainforests, scrub forests, semi-deciduous forests, and swamps.
- Grey Slender Loris generally inhabits dry and drought -prone areas of Dindigul district of Tamil Nadu.
- It is found in acacia and tamarind-dominated thorn and scrub forests near cultivated fields.
- IUCN: Near Threatened \Box
- CITES: Appendix II □
- Wildlife (Protection) Act of India, 1972: Schedule I

Sloth Bear

- two sloth bears were rescued by forest officials from a village in Jharkhand by the People for Animals group.
- Sloth bears are found in Sri Lanka, India, Bhutan and Nepal, in lowland areas.
- It is a forest-dwelling animal that inhabits tropical or subtropical regions of India and Sri
- Sloth bears primarily eat termites and ants, and unlike other bear species, they routinely carry their cubs on their backs. \square

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- They are also very fond of honey, hence their alternative name of "honey bear"
- IUCN Red List: Vulnerable □
- CITES listing: Appendix I \Box
- Indian Wildlife Protection Act, 1972: Schedule I

RAMGARH VISHDHARI TIGER RESERVE

- Rajasthan Government has notified the Ramgarh Vishdhari Wildlife Sanctuary as a tiger
- Tiger reserves are notified by the State Government as per provisions of Wildlife (Protection) Act, 1972 on advice of the National Tiger Conservation Authority (NTCA)
- It is the 4th Tiger Reserve of Rajasthan after Ranthambore, Sariska and Mukundra; and 52nd tiger reserve of India.
- Ramgarh Vishdhari serves as a tiger corridor between Ranthambore Tiger Reserve and Mukundra Hills Tiger Reserve

PEOPLE'S BIODIVERSITY REGISTER

- Kolkata became first major metropolitan city to prepare a detailed register of biodiversity
- PBR contains comprehensive information on locally available Bio-resources including landscape and demography of a particular area
- Biological Diversity Act (BDA), 2002 has made it mandatory for every local self-governing institution in rural and urban areas to constitute Biodiversity Management Committee (BMC) within their area of jurisdiction
- Once constituted, BMC must prepare PBR in consultation with local people.
- Advantages: Provides information on Local Biodiversity Hotspots, Sacred Groves, and Other biologically significant areas, locally endemic and endangered Species.

PANTANAL WETLAND

- Brazilian scientists warn that Pantanal, freshwater wetland, is at risk of collapse
- Pantanal in South America, is one of the world's largest tropical wetland.
- It lies in Brazil, Paraguay and Bolivia
- In 2000, it was inscribed on UNESCO's World Heritage List



All the Best to all my Economics students... Hope this material will help you. God bless... Jai Hind

