

2020



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CURRENT AFFAIRS

ECOLOGY & ENVIRONMENT

20th January - 25th January



1. Hydrochlorofluorocarbon (HCFC) 141 b

Why in News?

India has successfully phased out **Hydrochlorofluorocarbon (HCFC)-141 b**.

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has notified that the issuance of import license for HCFC-141b is prohibited from 1st January 2020 under Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2019.
 - **Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2019** have been issued under the Environment (Protection) Act, 1986.
 - This step is among the first at this scale in **Article 5 (special status of developing countries)** parties under the Montreal Protocol.

Key Points

- HCFC-141 b is one of the most powerful ozone-depleting chemicals after **Chlorofluorocarbons (CFCs)**.
- It is mainly used as a **blowing agent** in the foam manufacturing industries.
 - In India, the foam manufacturing sector is a mix of large, medium and small enterprises having varying capacities, with the preponderance of **Micro, Small, and Medium Enterprises (MSMEs)**.
- HCFC-141 b is not produced domestically and all requirements were met through imports.
- India is one of the few countries that are pioneers in the use of non-Ozone Depleting technologies and have a low **Global Warming Potential (GWP)**.
- The Ministry also adopted a structured approach to engage with foam manufacturing enterprises for providing technical and financial assistance in order to transition to **non-ODS (Ozone Depleting Substances)** and low GWP technologies under the **HCFC Phase-out Management Plan (HPMP)**.

HCFC Phase-out Management Plan

- India being a Party to the Montreal Protocol and its amendments needs to phase-out Ozone Depleting Substances (ODS) including HCFC as per the reduction schedule specified in the Protocol.
- The control schedule of the **Montreal Protocol** for **Article 5** parties for phaseout of HCFCs prior to the **19th Meeting of the Parties (MOP)** was as follows:

Consumption

- Base-level-2015
- Freeze- January 1, 2016

- 100% reduction January 1, 2040

Production

- Base-level-Average of production and consumption in 2015
- Freeze- January 1, 2016, at the base level for production
- 100% reduction January 1, 2040.

Montreal Protocol

- Adopted on 16 September 1987, the Montreal Protocol on substances that deplete the ozone layer regulates the production and consumption of Ozone Depleting Substances (ODS).
- In 2016, **Kigali amendment** was made to the protocol to phase out HydroFluoroCarbon (HFC).
 - Though **HFCs are not ozone-depleting** but are a thousand times more dangerous than carbon dioxide in causing global warming.

2. Rising CO₂ Levels may Double Floods

Why in News?

The report **Impacts of Carbon Dioxide Emissions on Global Intense Hydro-meteorological Disasters** has established a link between climate change and the rising incidence of hydro-meteorological events, specifically floods and storms across the world.

- The report is based on climate data from 155 countries over 46 years (1970 to 2016).
- The analysis is based on econometric modelling which involves accounting for a country's vulnerability to hazards, its Gross Domestic Product (GDP), population density and changes in mean rainfall.

Key Findings

- The number of intense **hydro-meteorological disasters** could increase by 5.4% annually for an average country facing annually nearly one **extreme disaster**.
 - Hydrometeorological disasters include floods, droughts, hurricanes, tornadoes, landslides, etc.
 - **Extreme disaster** is termed as one that causes 100 or more fatalities and/or affects 1,000 or more people.
- The risk of extreme floods or storms could double every 13 years at the rate carbon-dioxide concentrations are building up in the atmosphere.
- The yearly increase in atmospheric carbon dioxide has been about 2.4 parts per million or about 0.6 % from the base 396.5 ppm level for 2010 to 2016.

3. Ophichthus kailashchandrai: Snake Eel

Why in News?

A new snake eel species residing in the Bay of Bengal has been discovered and documented by the **Estuarine Biology Regional Centre (EBRC)** of the Zoological Survey of India (ZSI).

- The discovery of the new species suggests that the marine biodiversity of the long Indian coastline is still considerably unexplored.
- More explorations of this biodiversity will help in its conservation and proper utilisation.

Key Points

- This new marine species has been named *Ophichthus kailashchandrai* to honour the vast contributions of Dr. Kailash Chandra, Director of ZSI, to Indian animal taxonomy.
- *Ophichthus kailashchandrai* is the eighth species of the *Ophichthus* genus found on the Indian coast.
- It lives at a depth of around 50 metres in the sea.
- Individuals of this species are around 420 mm to 462 mm in length.
- They are light brown in colour, with white fins.
- Their teeth are moderately elongated, conical and sharp.
- It feeds on small fish and crabs.
- The outer surface of their bodies is slimy but they are **not poisonous**.

Estuarine Biology Regional Centre (EBRC)

- Estuarine Biology Regional Centre at Gopalpur, a coastal town in Odisha is one of the 16 regional centres of Zoological Survey of India.
- It was established by the Ministry of Environment, Forest and Climate Change, Government of India in 1980.
- The primary objective of this centre is to conduct investigations on faunal diversity of estuaries, backwaters, lagoons and mangrove ecosystems along the east and west coast of India.
- The jurisdiction of the Estuarine Biology Centre is “All India” covering all estuaries and associated mangrove ecosystems of the country.
 - This is because estuaries and mangrove ecosystem of India are extended throughout the country along both east and west coasts,

4. Ranthambore Tiger Reserve

Why in News?

The 15-year-old T-25, who was also known as Zalim and Dollar, was found dead recently in Ranthambore Tiger Reserve.

- Tiger T-25 took under its protection **two female cubs, Bina-1 and Bina-2**, teaching them how to hunt and protecting them from other animals.

Ranthambore Tiger Reserve

- Ranthambore Tiger Reserve lies in the eastern part of Rajasthan in Karauli and Sawai Madhopur districts, **at the junction of the Aravali and Vindhya hill ranges.**
- **Important conservation areas:**
 - Ranthambore National Park
 - Sawai Mansingh Sanctuary
 - Keladevi Sanctuary
- **Vegetation:** Grasslands on plateaus and dense forests along the seasonal streams.
 - The forest type is mainly tropical dry deciduous with 'dhak' (*Butea monosperma*), a species of tree capable of withstanding long periods of drought, being the commonest.
 - This tree is also called as 'Flame of forest' and is one of the many flowering plants that add colour to the dry summers here.
- **Wildlife:**
 - The park is rich in wildlife with tigers at the apex of the food chain in mammals.
 - Other animals found here are leopards, striped hyenas, common or hanuman langurs, rhesus macaques, jackals, jungle cats, caracals, blackbuck, Blacknaped hare and chinkara, etc.
- This area with tigers in it represents the north-western limit of the Bengal tiger's distribution range and is an outstanding example of Project Tiger's efforts for conservation in the country.

5. Koala: Bushfires in Australia

Why in News?

Australia is in the grips of a nationwide bushfire emergency which has severely affected wildlife.

- It's been estimated that 1.25 billion native animals have perished in the Australian bushfires, including koalas, kangaroos, wallabies, wombats, echidnas and more.
- Koalas are among the first animals to perish in wildfires because the slow-moving creatures can't outrun the flames.

Key Points

- Koala is (*Phascolarctos cinereus*) an **arboreal (lives in trees) marsupial.**
- 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**

- **Threats:** Habitat destruction, climate change & severe weather (Droughts, extreme temperatures).
- **Marsupial:**
 - A marsupial is born in a very incomplete state.
 - They are minute, hairless and with hind limbs only partially formed.
 - Around 2/3rd of them live in Australia. The other third live mostly in South America.
 - Instead of the placenta, the mother's milk nourishes the young and allows it to grow and develop.
 - Although the word 'marsupial' comes from the Latin word 'marsupium', which means 'pouch', **not all marsupials have pouches.**

6. Steppe Eagle

Why in News?

- A lone endangered steppe eagle (*Aquila nipalensis*) has been sighted during Asian Bird Census in Vijayawada, Andhra Pradesh.
- Steppe eagle is the second-largest migratory eagle species to India.

Steppe Eagle

- The Steppe Eagle is a migratory raptor whose population has declined at an alarming rate.
- IUCN Red List Status: Endangered
- It breeds in Russia, Kazakhstan, and Mongolia during the winter season.
- Major Threats
 - Habitat loss
 - Electrocution during flight
 - Contamination in Food sources due to herbicides/pesticides/veterinary drugs.

7. Irrawaddy Dolphins in the Chilika Lake

Why in News?

During census in Chilika Lake 146 Irrawaddy dolphins have been sighted by the Odisha Forest Department officials. The Census is being carried out using Hydrophone monitoring technique.

- A hydrophone is a microphone designed to be used underwater for recording or listening to underwater sound.

Irrawaddy Dolphins

- These aquatic mammals are found in coastal areas in South and SouthEast Asia.
- The rivers in which they reside are:

- The Irrawaddy (Myanmar)
- The Mahakam (Indonesian Borneo)
- The Mekong (China)
- **IUCN Status:** Endangered
- Dolphin distribution in Chilika is considered to be the highest single lagoon population.

Chilika Lake

- Chilika is Asia's largest and world's second-largest lagoon lake.
- It is located in Odisha and separated from Bay of Bengal by a small strip of sand.
- It is located at the mouth of Daya River which drains into the Bay of Bengal.
- It hosts intercontinental migratory birds during the winter season.
- It was designated the first Indian wetland of international importance under the Ramsar Convention in 1981.
- The major attraction at Chilika is Irrawaddy dolphins which are often spotted off Satapada Island.
- Kalijai Temple is located on an island in the Chilika Lake.

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