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# CURRENT AFFAIRS

**ECOLOGY & ENVIRONMENT**

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BusinessLine



## 1. Indian State of Forest Report

### Why in News?

The Ministry for Environment, Forests and Climate Change has released the India State of Forest Report (ISFR), 2019.

- Starting 1987, 16 assessments have been completed so far.

### ISFR

- ISFR is a biennial publication of **Forest Survey of India (FSI)**, an organisation under the Ministry of Environment Forest & Climate Change.
- The ISFR assesses the forest and tree cover, bamboo resources, carbon stock and forest fires.
- The 2019 report for the first time has assessed the qualitative nature of the forest cover, including listing its biodiversity and the type of plants and trees found.
- It also created a **National Forest Inventory** for the first time on produce from forests.

### Key Findings

- **Forest cover:**
  - Forests constitute 21.67% of the nation's geographical area.
  - Ascending order of states (Area):
    - i. Madhya Pradesh
    - ii. Arunachal Pradesh
    - iii. Chhattisgarh
  - Ascending order of states (percentage of total geographical area):
    - i. Mizoram
    - ii. Arunachal Pradesh
    - iii. Meghalaya
  - The forest cover in the country has increased by 0.12% to 712,249 sq km. since 2017.
  - Most increase in forest cover:
    - i. Karnataka
    - ii. Andhra Pradesh
    - iii. Kerala
  - Except **Assam and Tripura**, all the States in the North Eastern region show decrease in forest cover.
- **Tree Cover**
  - Maharashtra witnessed the highest increase in tree cover and a large part of that is due to horticulture.

- The tree cover of the country is 95,027 sq. km (2.89% of the total area) again slightly up from 93,815 sq. km. (2.85%) in 2017.
- In tribal areas, there has been a decline in tree cover inside forests due to tribal populations getting “land titles” (patta), whereas, trees outside the forest area have increased due to an increase in tree plantation and afforestation activities.
- **Carbon Stock**
  - The total carbon stock of the country was estimated at 7124 million tons, which is an increase of 42.6 million tonnes from the last assessment.
  - It implies that India is on the right track to achieve its **Paris Agreement** commitment of 2.5 - 3 billion tonnes of carbon sinks.
- **Forest Fires:**
  - About 21.40% of forest cover in India is prone to fires.
  - Forests in the North Eastern region and Central India are the most vulnerable.
  - The finding has emerged from a study carried out by the FSI along **forest fire points** identified across the country from 2004 to 2017.
- **Wetlands and Mangroves**
  - Amongst the States, Gujarat has the largest area of wetlands within the country followed by West Bengal.
  - Ascending order of states (Area):
    - i. West Bengal
    - ii. Gujarat
  - Top three states showing mangrove cover increase:
    - i. Gujarat
    - ii. Maharashtra
    - iii. Odisha

## **2. Kerala to curb Invasive Plant's Growth**

### **Why in News?**

The spread of invasive plant- *Senna spectabilis*, poses a major threat to forest areas of Nilgiri Biosphere Reserve including the Wayanad Wildlife Sanctuary.

- It has also started invading the adjacent Bandipur and Nagarhole tiger reserves in Karnataka and Mudumalai tiger-reserve in Tamil Nadu.
- Its quick growth and thick foliage arrests the growth of other indigenous tree and grass species.
- The allelochemicals produced by this plant adversely affect the germination and growth of the native species.

### *Senna spectabilis*

- **Habitat:** Deciduous tree native to tropical areas of America, Malaysia, Southern and Eastern Africa.
- **IUCN Red List-** 'Least Concern'

### Wayanad Wildlife Sanctuary

- Wayanad Wildlife Sanctuary, established in 1973 is an animal sanctuary in Wayanad, Kerala, India.
- It has four ranges namely- Sulthan Bathery, Muthanga, Kurichiat and Tholpetty.
- It is contiguous to the protected areas of Nagarhole and Bandipur of Karnataka on the north-east and Mudumalai of Tamil nadu on the south – east.
- Rich in biodiversity, the sanctuary is an integral part of the Nilgiri Biosphere Reserve.
- **Fauna-** Gaur, Sambar, Spotted deer, Barking deer, Wild boar, Sloth bear, Nilgiri langur, Bonnet macaque are the important fauna of the country.
- The **Kabini River**, one of the three east flowing rivers of Kerala, is an important tributary of the Kaveri River.
  - Almost the entire Wayanad district is drained by Kabini and its tributaries:
    - i. Panamaram
    - ii. Mananthavady

### 3. Renewable Energy Certificates

#### Why in News?

The sales of renewable energy certificates fell around 10% to 5.04 lakh units in December as compared to 5.59 lakh in the same month a year ago due to lower supply according to official data released by Indian Energy Exchange and Power Exchange of India.

#### Renewable Energy Certificate (REC)

- Central Electricity Regulatory Commission (CERC) notified Regulation on Renewable Energy Certificate (REC) in January, 2010.
- It is a market-based instrument to promote renewable sources of energy and development of market in electricity.
- It certifies that a bearer of a market-based instrument owns one MWh of renewable energy.

- Renewable Energy Certificate (REC) provides an alternative voluntary route to a generator to sell his electricity from renewable sources just like

conventional electricity and offer the green attributes (RECs) separately to obligated entities to fulfill their **renewable purchase obligation** (RPO)

- Under the RPO, bulk purchasers like discoms, open access consumers and capacitive users are required to buy a certain proportion of renewable energy or RECs.
- They can buy RECs from renewable energy producers to meet the RPO norms.

#### 4. Ghataprabha River

- The Ghataprabha River is a **right-bank tributary** of the **Krishna river** and joins the Krishna River at Chikksangam in Karnataka.
- Ghataprabha has a hydroelectric and irrigational dam at Hidkal is located in Belagavi district in Karnataka.
- **Tributaries of Ghataprabha:** Hiranyakeshi and Markandeya rivers.
- Krishna is the second largest river in peninsular India. It rises in the Western Ghats at an altitude of 1337 m. near Mahabaleshwar in Maharashtra.
- Krishna flows through Maharashtra, Karnataka, Telangana and Andhra Pradesh and finally drains into the Bay of Bengal.

#### 5. Red Brittle Star

##### Why in News?

Researchers have shown that the red brittle star (*Ophiocoma wendtii*) which inhabits the coral reefs of the Caribbean Sea and Gulf of Mexico can see even though it does not have eyes.

- This ability to see without eyes is known as extraocular vision.

##### Red Brittle Star

- Brittle stars, with five radiating arms extending from a central disk, are related to starfish (also called sea stars), sea cucumbers and sea urchins.
- A brittle star sees with the help of light-sensing cells called photoreceptors which cover its entire body.
- They are nocturnal and feed on detritus.

- The light-sensing cells give the brittle star visual stimuli, allowing it to recognise coarse structures such as rocks.
- The red brittle star changes its colour from red during the day to beige color at night due to pigment cells called chromatophores.
  - The research suggests that there may be a link between their extraocular vision and colour changing abilities since the responses in the creatures tested during the day, disappeared in those that were tested at night.



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