

2020



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1. India begins Coral Restoration in Gulf of Kutch

Why in News?

The Zoological Survey of India (ZSI), with help from Gujarat's forest department, is attempting for the first time a process to restore coral reefs using **biorock or mineral accretion technology**.

Biorock or Mineral Accretion Technology

- Biorock is the name given to the substance formed by electro accumulation of minerals dissolved in seawater.
- The technology works by passing a small amount of electrical current through electrodes in the water resulting in calcium carbonate formation.
- Coral larvae adhere to the calcium carbonate and grow quickly.
- Fragments of broken corals are tied to the biorock structure, where they are able to grow at least four to six times faster than their actual growth.
 - This is because they need not spend their energy in building their own calcium carbonate skeletons.
- Biorock technology helps corals, including the highly sensitive branching corals, to counter the threats posed by global warming.
- The location for installing the biorock had been chosen keeping in mind the high tidal amplitude in the Gulf of Kachchh.
 - The low tide depth where the biorock has been installed is four metres, and at high tide it is about eight metres.

Corals

- Corals are made up of polyps.
- Coral reefs are formed of colonies of coral polyps held together by calcium carbonate.
- Corals form a symbiotic (mutualistic) relationship with certain zooxanthellae (photosynthesis algae) living in their tissues.
- They are known as "Rainforests of the Seas".
- Major reef formations in India:
 - Gulf of Mannar and Palk bay
 - Gulf of Kutch
 - Andaman and Nicobar Islands
 - Lakshadweep islands
- Threats to coral reefs were posed both by climate change induced acidification as well as by anthropogenic factors.

2. World Wetlands Day

Why in News?

- World Wetland Day is celebrated every year on 2nd February. This day marks the date of the adoption of the convention on wetlands in 1971 in Ramsar Iran.
- The **theme for 2020** is ‘**Wetlands and Biodiversity**’.

Wetlands

- Wetlands are defined as land transitional between terrestrial and aquatic ecosystems.
- They occur where the water table is at or near the surface of the land, or where the land is covered by water.
- **Five major wetland types** are generally recognized:
 - Marine (coastal wetlands including coastal lagoons, rocky shores, and coral reefs);
 - Estuarine (including deltas, tidal marshes, and mangrove swamps);
 - Lacustrine (wetlands associated with lakes);
 - Riverine (wetlands along rivers and streams);
 - Palustrine (meaning “marshy” - marshes, swamps and bogs).

Status of Wetlands in India

- In India, Wetlands are regulated under the **Wetlands (Conservation and Management) Rules, 2017**.
- The 2017 rules replaced the **Central Wetland Regulatory Authority** with state level bodies and created a **National Wetland Committee**, which functions in an advisory role.
- The newer regulations removed some items from the definition of “wetlands” including backwaters, lagoon, creeks, and estuaries.

Significance of Ramsar Site

- They are recognised as being of significant value not only for the country in which they are located, but for humanity as a whole.
- The inclusion of a wetland in the list embodies the government’s commitment to take the steps necessary to ensure that its ecological character is maintained.
- The Convention includes various measures to respond to threats to the ecological character of Sites.
- The significance of wetland biodiversity was **stressed recently by the global IPBES assessment** which identified wetlands as the most threatened ecosystem.

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

- IPBES is an **independent intergovernmental body** established in Panama city (US) in 2012.
- It was established to:
 - strengthen the science-policy interface for biodiversity and ecosystem service
 - promote sustainable use of biodiversity

3. Ujh Multipurpose (National) Project

Why in News?

The central government has fast tracked the implementation of Ujh Multipurpose (National) Project.

- It will provide uninterrupted water for irrigation to farmers in Jammu and Kashmir's Kathua district.

Ujh Multipurpose Project

- It will enhance India's utilisation of its rights under the **Indus Waters Treaty**.
 - The project will help India enhance the utilisation of waters of **Eastern Rivers** that presently goes across border unutilised.
- The project is planned to be constructed in **Kathua District** of Jammu & Kashmir on the **River Ujh**.
 - Ujh is a tributary of the **Ravi river**.

Indus Water Treaty

- The Indus Waters Treaty was signed in September, 1960 by Indian Prime Minister Jawaharlal Nehru and Pakistan's President Ayub Khan.
- The treaty enumerates how river Indus and its tributaries that flow through both the countries can be effectively utilised to prevent conflicts.
- The **World Bank** mediated the Indus water treaty.
- The **Permanent Indus Commission (PIC)** was established the same year.
- According to the treaty, the administration of the following three **eastern rivers** is invested on Indian Government
 - **Beas**
 - **Ravi**
 - **Sutlej**
- Whereas the following western rivers will be administered by Pakistan:
 - **Indus**
 - **Chenab**
 - **Jhelum**
- India can use the waters in western rivers for non-consumption needs.

- India is **allowed to use 20% of its water for irrigation, power generation and transport purposes.**
- India and Pakistan have to **meet twice a year** to discuss important issues and resolve disputes, as per the provisions of the treaty.
- However, if there are certain issues which cannot be resolved, then they go through the **dispute settlement procedure.**

Indian Projects on Indus

- Bhakra Dam (Sutlej)
- Pong and Pandoh Dam (Beas)
- Ranjit Sagar Dam (Thein Dam) - Ravi
- Shahpurkandi Project (Ravi)

4. Burhi Dihing River

Why in News?

A stretch of Dihing (or Burhi Dihing) in Eastern Assam's Dibrugarh district witnessed fire following the spillage of crude oil which was being transported to Digboi refinery.

- An oil spill is the **release of a liquid petroleum hydrocarbon** into the environment, especially the marine ecosystem and is a form of pollution.

Dihing River

- Dihing is a large left bank tributary of the Brahmaputra River in Upper Assam.
- The river originates in the **Eastern Himalayas** (the Patkai Hills) in Arunachal Pradesh.
- It flows through Tinsukia and Dibrugarh Districts in Assam to its confluence with the Brahmaputra at Dihingmukh.
- It creates a number of **oxbow lakes** in the area.
 - An oxbow lake is a lake that starts out as a curve, or meander, in a river.
 - A meander is a curve in a river.
 - It is formed in the middle and lower course of a river.
 - The U-shaped lake forms along the side of the river as the river finds a different, shorter, course.
 - Water does not flow into or out of oxbow lakes hence they often become swamps or bogs, and dry up as their water evaporates.

Tributaries of Brahmaputra:

- **Major left bank:**
 - Dhansari (south)
 - Kalang
 - Lohit
 - Dibang

- **Major right bank:**
 - Subansiri
 - Kameng
 - Manas
 - Sankosh
 - Teesta

International Convention for the Prevention of Pollution from Ships (MARPOL)

- MARPOL is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.
- The Convention was adopted in November, 1973 at the **International Maritime Organisation (IMO)** in response to a spate of tanker accidents in 1976-1977.
- In 1978, the **MARPOL** Protocol was adopted and it incorporated the 1973 convention which had not yet entered into force.
- India is a party to MARPOL 73/78.
- It aims to prevent pollution from:
 - a) Oil Spill
 - b) Noxious Liquid Substances carried in Bulk
 - c) Harmful Substances carried in Packaged Form
 - d) Sewage
 - e) Garbage
 - f) Air Pollution from ships

5. Amrabad Tiger Reserve

Why in News?

- Major fire was reported for a second time within four days from the Amrabad Tiger Reserve in Nagarkurnool district, Telangana.
- The fire was man-made, and could have been the result of the camp- fire lit by tourists.

Amrabad Tiger Reserve

- Amrabad Tiger Reserve lies in the Nallamala hills of Telangana.
- It was earlier part of Nagarjunasagar – Srisailem Tiger Reserve (NSTR) but, post-bifurcation, the northern part of the reserve is vested with Telangana and renamed as Amrabad Tiger Reserve.
- Chenchu tribals live in the Amrabad forests.
 - The chenchus are scheduled tribes in the Andhra- Pradesh, Telangana, Karnataka and Odisha. Many chenchus live in Nallamala forest.
- NH-565 which passes through the core area of it.

6. Bandipur Tiger Reserve

Why in News?

Prolonged monsoon and unseasonal rains has helped to rejuvenate the waterholes in Bandipur Tiger Reserve, Karnataka.

Key Points

- There are **370 big and small waterholes** (a **depression** in which water collects from where animals usually drink) in Bandipur and **85% of them are full**.
- At Bandipur, the majority of waterholes dry up by **February and March** leading to severe water stress situations for animals.
 - But this year, it is expected that the depletion of water levels will take a little longer.
- Also, in the areas of water stress, **37 solar-powered borewells** have been arranged that will function to replenish the waterholes periodically to further minimise the water scarcity.

Bandipur Tiger Reserve

- This National Park was formed by including most of the forest areas of the then **Venugopala Wildlife Park** established under Govt. Notification dated 19th February 1941.
 - This reserve was brought under Project Tiger in 1973.
- In 1985, by including adjacent areas from Venugopala Wildlife Park, it was enlarged and named as Bandipur National Park.
- The Tiger Reserve is situated in **two contiguous districts (Mysore and Chamarajanagar) of Karnataka**.
- It is located in the tri-junction area of the States of **Karnataka, Tamil Nadu and Kerala**.
- Bandipur Tiger Reserve lies in one of the **richest biodiversity areas** of the country.
- It is surrounded by
 - **Mudumalai Tiger Reserve** in the South,
 - **Wayanad Wildlife Sanctuary** in the South-West &
 - The **Kabini Reservoir** separates the Bandipur and **Nagarahole Tiger Reserve** on the North-west.
- Together these four areas are part of the **Nilgiri Biosphere Reserve**.
- This Landscape of Bandipur, Nagarahole, Mudumalai & Wayanad complex is home to the single largest Asian Elephant population in the world and is part of the Mysore Elephant Reserve.
- The park is located between the **Kabini river in the north** and the **Moyar river in the south**.
- The **Nugu river runs** through the park.

- The highest point in the park is on a hill called **Himavad Gopalaswamy Betta**.

7. Mudumalai Tiger Reserve

- Mudumalai Tiger Reserve (MTR) is located in the **Nilgiris District** of Tamil Nadu.
- It is at the tri-junction of three states, viz, **Karnataka, Kerala and Tamil Nadu**.
- The name Mudumalai means “the ancient hill range”.
- It plays an unique role by forming part of the Nilgiris Biosphere Reserve, the first Biosphere Reserve in India, declared during 1986.
- It has a **common boundary with Wayanad Wildlife Sanctuary (Kerala)** on the West, **Bandipur Tiger Reserve (Karnataka)** on the North, and the **Nilgiris North Division** on the South and East and **Gudalur Forest Division** on the South West.
- Together it forms a large conservation landscape for flagship species such as Tiger and Asian Elephant.
- There is a high diversity of animal life in the sanctuary with about 50 species of fishes, 21 species of amphibians, 34 species of reptiles, 227 species of birds and 55 species of mammals.
- The Moyar river flows downstream into the Mudumalai Tiger Reserve and is the natural line of division between Mudumalai and Bandipur Sanctuary.

Other Tiger Reserves in Tamil Nadu

1. Anamalai Tiger Reserve (ATR)
2. Kalakad Mundanthurai Tiger Reserve (KMTR)
3. Sathyamangalam Tiger Reserve (STR)

8. Flame-Throated Bulbul

Why in News?

- The flame-throated bulbul has been chosen as the **mascot of the 36th National Games**.
 - The 36th National Games will be held between October 20 and November 4 in the year 2020.

Flame-Throated Bulbul

- It is also called the Rubigula.
- It is the State bird of Goa.
- The Flame-throated Bulbul is **endemic to southern peninsular India**.
 - It is locally distributed in southern Andhra Pradesh, eastern Karnataka, Goa, Orissa, eastern Kerala and northern Tamil Nadu.
- The Flame-throated Bulbul prefer habitats like rocky, scrub-covered hills

mostly in the Eastern Ghats and central peninsular India but also in some places in the Western Ghats.

- IUCN status: **Least Concern**
- It is a **Schedule – IV bird in India's Wildlife (Protection) Act, 1972.**



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