



Wetlands Conservation

For Prelims: Wetland Conservation, Mangrove, Peatlands, eco-systems

For Mains: Wetland and its Importance, Environmental Pollution and Degradation

Why in News?

According to a new report, wetland conservation should feature **as an independent topic of discussion in the negotiations** at the **upcoming biodiversity and [climate change](#)** conferences for effective **carbon sequestration**.

- Carbon sequestration is the **long-term storage of carbon** in plants, soils, geologic formations, and the ocean.
- Experts from the **Wetlands International**, a **global non-profit**, in a new white paper **suggested five global, science-based conservation efforts** to protect and restore wetlands.
- The suggestions come in the run up to the 15th **Conference of Parties** (CoP15) to the **Convention on Biological Diversity** to be held in Montreal, Canada and the 27th **Conference of Parties** (CoP27) to the **United Nations Framework Convention on Climate Change** in Egypt later this year.

What are the five suggested targets by Wetlands International to be achieved by 2030?

- The **remaining, undrained peatland carbon stores should be kept intact** and 10 million hectares of drained **peatlands** need should be restored.
- The Global **mangrove** cover of 20 %.
- The **preservation of free-flowing rivers and floodplains**, along with enhancement of restoring the floodplain ecosystem and its function in the area.
- The 10% increase of the West African river Volta in the tidal flats area.
- **Identification of 50 % of the 7,000 critically important sites along the flyways** to be brought under favourable management.

What are Wetlands?

- Wetlands are **areas where water is the primary factor controlling the environment and the associated plant and animal life**. They occur where the water table is at or near the surface of the land, or where the land is covered by water.
- Wetlands are defined as: "**lands transitional between terrestrial and aquatic [eco-systems](#)** where the water table is usually at or near the surface or the land is covered by shallow water".

What is the Importance of Wetlands?

- **Highly Productive Ecosystems:** Wetlands are highly productive ecosystems that provide the

world with nearly **two-third of fish harvest**.

- **Integral Role in the Ecology of the Watershed:** The combination of shallow water, high levels of nutrients is ideal for the development of organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects.
- **Carbon Sequestration:** Wetlands' microbes, plants and wildlife are part of global cycles for water, nitrogen and sulphur. **Wetlands store carbon within their plant communities and soil instead of releasing it to the atmosphere** as carbon dioxide.
- **Lowering flood Heights and Reduces soil erosion:** Wetlands **function as natural barriers that trap and slowly release surface water**, rain, snowmelt, groundwater and flood waters. Wetland vegetation also slow the speed of flood waters lowering flood heights and reduces soil erosion.
- **Critical to Human and Planet Life: More than one billion people depend on them for a living** and 40% of the world's species live and breed in wetlands.
- Wetlands are a **vital source for food, raw materials, genetic resources for medicines, and hydropower**.
- They play an important role in transport, tourism and the cultural and spiritual well-being of people.
- **Habitat for Animals and Plants:** They provide habitat for animals and plants and many **contain a wide diversity of life, supporting plants and animals that are found nowhere else**.
- **Areas of Natural Beauty:** Many wetlands are areas of natural beauty and **promote tourism and many are important to Aboriginal people**.
- **Important Benefits for Industry:** Wetlands also provide important benefits for industry. For example, they form nurseries for fish and other freshwater and marine life and are **critical to commercial and recreational fishing industries**.

What are the Threats to Wetlands?

- **Urbanisation:** Wetlands near **urban centres are under increasing developmental pressure for residential, industrial and commercial facilities**. Urban wetlands are essential for preserving public water supplies.
- **Agriculture: Vast stretches of wetlands have been converted to paddy fields.** Construction of a large number of reservoirs, canals and dams to provide for irrigation significantly altered the hydrology of the associated wetlands.
- **Pollution:** Wetlands **act as natural water filters. However, they can only clean up the fertilisers and pesticides from agricultural runoff** but not mercury from industrial sources and other types of pollution.
 - There is growing concern about the effect of industrial pollution on drinking water supplies and the biological diversity of wetlands.
- **Climate Change: Increased air temperature, shifts in precipitation, increased frequency of storms, droughts, and floods**, increased atmospheric **carbon dioxide** concentration, and sea level rise could also affect wetlands.
- **Dredging:** The **removal of material from a wetland or river bed**. Dredging of streams lowers the surrounding water table and dries up adjacent wetlands.
- **Draining:** Water is drained from wetlands by cutting ditches into the ground which collect and transport water out of the wetland. This lowers the water table and dries out the wetland.
- **Introduced Species:** Indian wetlands are **threatened by exotic introduced plant species such as water hyacinth** and salvinia. They clog waterways and compete with native vegetation.
- **Salinization:** Over withdrawal of groundwater has led to salinisation.

What are the Efforts towards Wetlands Conservation?

- **Initiatives at Global Level:**
 - [Ramsar Convention](#)
 - [Montreux Record](#)
 - [World Wetlands Day](#)
- **Initiatives at National Level:**
 - [Wetlands \(Conservation and Management\) Rules, 2017](#).
 - [Action Plan of MoEFCC](#)

Way Forward

- To **counter unplanned urbanization and a growing population**, management of wetlands has to be an integrated approach in terms of planning, execution and monitoring.
- **Effective collaborations among academicians and professionals**, including ecologists, watershed management specialists, planners and decision makers for overall management of wetlands.
- **Spreading awareness** by initiating awareness programs about the importance of wetlands and constant monitoring of wetlands for their water quality would provide vital inputs to safeguard the wetlands from further deterioration.

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