



## Wetlands Conservation

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### Why in News

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Rajasthan Government is acting proactively to protect the wetland ecosystem of the state with 52 wetlands earmarked for time-bound development.

In Rajasthan, **Sambhar Lake and Keoladeo Ghana National Park** have the prestigious tag of '**Wetland of International Importance**', by the Ramsar Convention on Wetlands.

### Key Points

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- **Wetlands are defined as:** "lands transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface or the land is covered by shallow water".

- **Importance:**
  - **Ecosystem and biodiversity support:**
    - Wetlands are highly productive ecosystems that provide the world with nearly **two-thirds of its fish harvest**.
    - Wetlands play an 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.
    - Wetlands' microbes, plants and wildlife are **part of global cycles for water, nitrogen and sulphur**. Wetlands **store carbon within their plant communities and soil (carbon sequestration)** instead of releasing it to the atmosphere as carbon dioxide.
    - They provide habitat for animals and plants and many contain a wide diversity of life, supporting plants and animals that are found nowhere else.
    - They are also an important source of **ground water recharge**.
  - **Human Dependence:** More than **one billion people** depend on them for a living.
    - Wetlands are a **vital source** for food, raw materials, genetic resources for medicines, and hydropower.
    - Many wetlands are areas of natural beauty and promote **tourism** and many are **important to Aboriginal people**.
    - Also, they help in **controlling the floods**.

- **Threats to Wetlands:**

- **Urbanization:** 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 fertilizers 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 and sand mining:** That is the removal of material from a wetland or river bed. Dredging of streams lowers the surrounding water table and dries up adjacent wetlands.
- **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.

- **Global Conservation Efforts:**

- **Ramsar Convention**

- The Convention came into force in **1975** and is **one of the oldest inter-governmental accord** for preserving the ecological character of wetlands.
- The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".
- **India has 37 Ramsar Sites** which are the Wetlands of International importance.

- **Montreux Record**

- Montreux Record is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.
- Wetlands of India that are in Montreux Record: **Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).**  
**Chilka lake (Odisha)** was placed in the record but was later removed from it.

- **Conservation Efforts by India:**
  - **National Plan for Conservation of Aquatic Ecosystems (NPCA):**
    - NPCA is a single conservation programme for both wetlands and lakes.
    - It is a **centrally sponsored scheme**, currently being implemented by the Union Ministry of Environment and Forests and Climate Change.
      - It was formulated in 2015 by merging of the National Lake Conservation Plan and the National Wetlands Conservation Programme.
    - NPCA seeks to promote better synergy and avoid overlap of administrative functions.
  - **Wetlands (Conservation and Management) Rules, 2017:**
    - **Nodal authority:** As per the Wetlands Rules, the **Wetlands Authority** within a state is the nodal authority for all wetland-specific authorities in a state/UT for the enforcement of the rules.
    - **Prohibited activities:**
      - Setting up any industry and expansion of existing industries,
      - Dumping solid waste or discharge of untreated wastes and effluents from industries and any human settlements, and
      - Encroachment or conversion for non-wetlands uses.
    - **Integrated Management Plan:** The guidelines recommend that the state/UT administration prepare a plan for the management of each notified wetland by the respective governments.
    - **Penalties:** Undertaking any prohibited or regulated activities beyond the thresholds (defined by the state/UT administration) in the wetlands or its zone of influence, will be deemed violations under the Wetlands Rules. Violation of the Rules will attract penalties as per the **Environment (Protection) Act, 1986**.

**Source TH**