

Four new wetlands in India added to Ramsar list

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Four more sites from India have been recognized under the 1971 Ramsar Convention on Wetlands bringing the total number of such designated areas in the country to 46. Wetlands are some of the world's most fragile and sensitive ecosystems supporting unique habitats for plants and animals, and providing livelihoods to millions of people across the world. Let us understand more about wetlands and their conservation.

In news: The state of India's urban wetlands and why they need to be protected urgently

Placing it in syllabus: Environment

Dimensions

- What is a wetland?
- What are the selection criteria for a wetland to be included in the Ramsar list?
- Brief History of Ramsar Convention
- Threats to wetlands
- New Ramsar Sites

Content:

What is a wetland?

- A wetland is an area of land that is either covered by water or saturated with water.
- The water is often groundwater, seeping up from an aquifer or spring. A wetland's water can also come from a nearby river or lake. Seawater can also create wetlands, especially in coastal areas that experience strong tides.
- A wetland is entirely covered by water for at least part

of the year. The depth and duration of this seasonal flooding varies. Wetlands are transition zones.

- Common names for wetlands include marshes, estuaries, mangroves, mudflats, mires, ponds, fens, swamps, deltas, coral reefs, billabongs, lagoons, shallow seas, bogs, lakes, and floodplains, to name just a few!

Functions of Wetlands:

- Wetlands are among the **most productive ecosystems in the world**, comparable to rain forests and coral reefs.
- An immense variety of species of microbes, plants, insects, amphibians, reptiles, birds, fish and mammals can be part of a wetland ecosystem.
- Physical and chemical features such as climate, landscape shape (topology), geology and the movement and abundance of water help to determine the plants and animals that inhabit each wetland.
- The complex, dynamic relationships among the organisms inhabiting the wetland environment are referred to as food webs.
- Wetlands can be thought of as **“biological supermarkets.”** They provide great volumes of food that attract many animal species.
- These animals use wetlands for part of or all of their life-cycle. Dead plant leaves and stems break down in the water to form small particles of organic material called **“detritus.”**
- This enriched material feeds many small aquatic insects, shellfish and small fish that are food for larger predatory fish, reptiles, amphibians, birds and mammals.
- The functions of a wetland and the values of these functions to human society depend on a **complex set of relationships between the wetland and the other ecosystems in the watershed.**
- Furthermore, scientists are beginning to realize that **atmospheric maintenance** may be an additional wetlands

function.

- Wetlands **store carbon within their plant communities and soil** instead of releasing it to the atmosphere as carbon dioxide. Thus, wetlands help to **moderate global climate conditions**.
- Wetlands not only support high concentrations of biodiversity, but also offer a wide range of important resources and ecosystem services like food, water, fiber, groundwater recharge, water purification, flood moderation, storm protection, erosion control, carbon storage and climate regulation.

What are the selection criteria for a wetland to be included in the Ramsar list?

- Under the Ramsar Criteria, wetlands should be selected for the Ramsar List on account of their international significance in terms of the biodiversity and uniqueness of their ecology, botany, zoology, limnology or hydrology.
- In addition, the Criteria indicates that in the first instance, wetlands of international importance to waterbirds at any season should be included on the Ramsar List.
- There are nine criteria for identifying Wetlands of International Importance:

Group A of the Criteria. Sites containing representative, rare or unique wetland types

- **Criterion 1:** A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

Group B of the Criteria. Sites of international importance for conserving biological diversity

Criteria based on species and ecological communities

- **Criterion 2:** A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
- **Criterion 3:** A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
- **Criterion 4:** A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

Specific criteria based on waterbirds

- **Criterion 5:** A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
- **Criterion 6:** A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

Specific criteria based on fish

- **Criterion 7:** A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.
- **Criterion 8:** A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or

migration path on which fish stocks, either within the wetland or elsewhere, depend.

Specific criteria based on other taxa

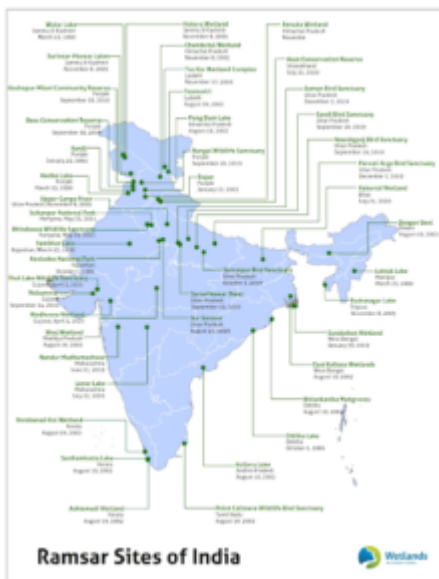
- **Criterion 9:** A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.

Brief History of Ramsar Convention:

- The '**Convention on Wetlands**' called the **Ramsar Convention**, is the oldest of the modern global intergovernmental environmental agreements.
- The treaty was negotiated through the 1960s by countries and non – governmental organizations concerned about the increasing loss and degradation of wetland habitat for migratory waterbirds.
- It was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975.
- The intergovernmental treaty provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
- Wetlands are the only ecosystem to have a dedicated multilateral environmental agreement of their own, the Ramsar Convention.
- Currently, there are 171 Contracting Parties to the Convention, with 2414 wetland sites, totaling over 254,543,972 ha., designated as Wetlands of International Importance.
- Under the "**three pillars**" of the Convention, the Contracting Parties commit to:
 - **Wise Use:** work towards the wise use of all their wetlands;
 - **List of Wetlands of International Importance:**

designate suitable wetlands for the list of Wetlands of International Importance (the “Ramsar List”) and ensure their effective management;

- **International cooperation:** cooperate internationally on transboundary wetlands, shared wetland systems and shared species.
- India became a party to Ramsar Convention in 1982 and so far, 46 wetlands covering 19 States & UTs have been designated as Ramsar sites.



Threats to wetlands:

- According to estimates by **Wetlands International South Asia**, nearly **30 percent** of the **natural wetlands in India have been lost** in the last three decades mainly to:
 - illegal construction,
 - unsustainable urbanisation,
 - agricultural expansion
 - pollution.
- As urbanisation is only likely to intensify, the country’s wetlands need to be safeguarded urgently.
- In addition to urbanisation needs, **lack of awareness and knowledge on wetlands** and their ecosystem services can be blamed for this widespread loss.
- Wetlands are impacted profoundly by **damming and water**

abstraction: Keoladeo Ghana Sanctuary, Loktak Lake, Chilika Lake, Vembanad Kole are among those severely impacted by dams that affect water and silt flows.

How to protect Wetlands?

- **Smart and innovative ideas** along with **increasing space for people's participation** in management and decision making for their wetlands are requisites for wetland conservation.
- **Mainstreaming wetlands ecosystem services and biodiversity into our developmental policies** and urban planning processes, including climate change mitigation
- Mega urban schemes like Smart Cities Mission and Atal Mission for Rejuvenation and Urban Transformation need to add the aspects of sustainable management of wetlands.
- **There is also a need for more scientific data**, imagery, maps and other relevant tools to provide knowledge on the status of wetlands.
- **There is also a need for stronger enforcement of rules.** For example, the **National Plan for Conservation of Aquatic Ecosystems and the Wetlands Conservation and Management Rules, 2017** (updated in 2020), have had limited impact as regulatory bodies like the Central Wetland Regulatory Authority only have advisory powers.
- **Awareness and community participation:** Awareness is the first step towards protection. Starting with awareness campaigns in targeted areas, encourage locals to participate with their time and monetary contributions

Some Successful Examples:

- In **Mithilanchal region (north Bihar)**, Narayan Choudhary's **Talab Bachao Abhiyan** has mobilised communities over the years. The campaign created awareness on encroachment and pollution of local ponds and pushed the government to take action.

Community-led conservation through ecotourism: Shweta Hule's 'Swamini' self-help group of ten women have been organising 'mangrove safari' for tourists in the **Mandavi** creek in **Sindhudurg** since 2017.

New Ramsar Sites:

Bhindawas:

- Bhindawas Wildlife Sanctuary, the largest wetland in **Haryana is a human-made freshwater wetland.**
- It was established as a Bird Sanctuary by the Government of India on 3rd June, 2009.
- This is an important part of the **ecological corridor along the route of Sahibi River.**
- Rain water, JawaharLal Nehru Lift Irrigation Project Feeder canal and its escape channel are the main source of water in the bird sanctuary.
- Over **250 bird species use the sanctuary** throughout the year as a resting and roosting site.
- The site supports more than ten globally threatened species including the endangered Egyptian Vulture, Steppe Eagle, Pallas's Fish Eagle, and Black-bellied Tern.

Sultanpur:

- Sultanpur National Park from **Haryana** supports more than 220 species of resident, winter migratory and local migratory waterbirds at critical stages of their life cycles.
- Sultanpur wetland is spread across 1.21 sq km.
- More than ten of these are globally threatened, including the critically endangered sociable lapwing, and the endangered Egyptian Vulture, Saker Falcon, Pallas's Fish Eagle and Black-bellied Tern.

Thol Lake:

- It is an **artificial lake near Thol village** in Kadi in Mehsana District in the Indian state of **Gujarat**.
- Thol Lake Sanctuary is made up of a reservoir that was created in 1912 as an irrigation tank when the Maharajas of Baroda (Gaekwads) ruled the region.
- It is a **freshwater lake surrounded by marshes**.
- It was declared the Thol Bird Sanctuary in 1988.
- This Sanctuary from Gujarat lies on the Central Asian Flyway and more than 320 bird species can be found here.
- The wetland supports more than 30 threatened waterbird species, such as the critically endangered White-rumped Vulture and Sociable Lapwing , and the vulnerable Sarus Crane, Common Pochard and Lesser White-fronted Goose.

Wadhvana Wetland:

- Wadhvana is a **century old tank** in **Gujarat**, constructed by erstwhile **King Gaikwad** in 1909-10.
- This tank has a catchment area of 860 sq km , **deriving its water from Orsang river**.
- The lake is an **important wetland inviting migratory birds** from far off places like Siberia and Europe.
- They include some threatened or near-threatened species such as the endangered Pallas's fish-Eagle, the vulnerable Common Pochard, and the near-threatened Dalmatian Pelican, Grey-headed Fish-eagle and Ferruginous Duck.

Mould your thought: Wetlands are a desperate requirement for building a climate resilient future for India. Evaluate.

Approach to the answer:

- Introduction
- Define wetlands / discuss Ramsar convention briefly
- Discuss their functions
- Highlight the threats faced by wetlands in India

- Suggest measures to save wetlands
- Conclusion