

# 75 Ramsar Sites in 75th Year of Independence







- ➤ India adds 11 more wetlands to the list of Ramsar sites to make total 75 Ramsar sites covering an area of 13,26,677 ha in the country in the 75<sup>th</sup> year of Independence.
- ➤ The 11 new sites include: Four (4) sites in Tamil Nadu, Three (3) in Odisha, Two (2) in Jammu & Kashmir and One (1) each in Madhya Pradesh and Maharashtra. Designation of these sites would help in conservation and management of wetlands and wise use of their resources.
- ➤ India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran, in 1971. India signed it on 1<sup>st</sup> Feb 1982. During 1982 to 2013, a total of 26 sites were added to the list of Ramsar sites, however, during 2014 to 2022, the country has added 49 new wetlands to the list of Ramsar sites.
- ➤ During this year itself (2022) a total of 28 sites have been declared as Ramsar sites. Based on the date of designation mentioned on Ramsar Certificate, the number is 19 for this year (2022) and 14 for previous year (2021).
- Tamil Nadu has maximum no. of Ramsar sites (14 nos), followed by UP which has 10 nos. of Ramsar sites.

#### **Know About 11 New Ramsar Sites**

#### 1. Tampara Lake

- ➤ Tampara Lake is among the most prominent freshwater lakes in the State of Odisha situated in Ganjam district. The depression on the ground gradually filled with rainwater from catchment flow and was called "Tamp" by the British and subsequently termed "Tampra" by the locals.
- ➤ The wetland supports at least 60 species of birds, 46 species of fishes, at least 48 species of phytoplanktons, and more than seven species of terrestrial plants and macrophytes.
- ➤ The wetland is an important habitat for vulnerable species such as Cyprinus carpio, common pochard (Aythya ferina), and river tern (Sterna aurantia).

#### 2. Hirakud Reservoir

- ➤ Hirakud Reservoir, the largest earthen dam in Odisha started operating in 1957.
- ➤ Out of the known 54 species of fish from the reservoir, one has been classed as being endangered, six near threatened and 21 fish species of economic importance.
- ➤ Similarly, over 130 bird species have been recorded at this site, out of which 20 species are of high conservation significance.

#### 3. Ansupa Lake

- Ansupa Lake is the largest freshwater lake of Odisha situated in Banki subdivision of Cuttack district and has its fame from time immemorial for its scenic beauty, biodiversity, and natural resources.
- ➤ The wetland is an oxbow lake formed by River Mahanadi and is spread over an area of 231 ha.
- ➤ The wetland is home to at least 194 species of birds, 61 species of fishes and 26 species of mammals in addition to 244 species of macrophytes.
- ➤ The wetland provides a safe habitat to at least three threatened bird species-Rynchops albicollis (EN), Sterna acuticauda (EN) and Sterna aurantia (VU) and three threatened fish species- Clarias magur (Clariidae) (EN), Cyprinus carpio (Cyprinidae) (VU) and Wallago attu (VU).

# 4. Yashwant Sagar

- ➤ Yashwant Sagar is one of the two Important Bird Areas (IBA) in the Indore region as well as one of the most important birding sites in Malwa region of Madhya Pradesh.
- ➤ Presently it is mainly used for water supply to the city of Indore and is also being used for fish culture on a commercial scale.
- ➤ Yashwant Sagar is considered to be a stronghold of the vulnerable Sarus Crane in central India.
- ➤ The lake backwaters have plenty of shallow areas, conducive for waders and other waterfowl.



➤ Due to its vast shallow reed beds, the wetland is considered heaven to a large number of winter migratory birds.

#### 5. Chitrangudi Bird Sanctuary

- ➤ Chitrangudi Bird Sanctuary, locally known as "Chitrangudi Kanmoli" is located in Ramanathapuram district in Tamil Nadu.
- ➤ The wetland is a protected area since 1989 and declared as Bird Sanctuary.
- ➤ Chitrangudi Bird Sanctuary is an ideal habitat for winter migratory birds. Around 50 birds belonging to 30 families have been reported from the site. Out of these 47 are water birds and 3 terrestrial birds.
- ➤ Notable waterbirds spotted from the site area spot-billed pelican, little egret, grey heron, large egret, open billed stork, purple, and pond herons.
- ➤ Chitrangudi is surrounded by agricultural fields, where different crops are grown throughout the year.

#### 6. Suchindram Theroor Wetland Complex

- ➤ Suchindrum Theroor Wetland complex is part of the Suchindrum-Theroor Manakudi Conservation Reserve.
- ➤ It is declared an Important Bird Area and lies at the southern tip of the Central Asian flyway of migratory birds. It was formed for birds' nesting purposes and it attracts thousands of birds every year.
- ➤ Copper plate inscriptions from the 9th century mention Pasumkulam, Venchikulam, Nedumarthukulam, Perumkulam, Elemchikulam and Konadunkulam.
- ➤ Around 250 species of birds have been recorded in the area, of which 53 are migratory, 12 endemic, and 4 threatened.

# 7. Vaduvur Bird Sanctuary

- ➤ Vaduvur bird sanctuary spreads over an area of 112.638 ha, is a large humanmade irrigation tank and shelter for migratory birds as it provides a suitable environment for food, shelter, and breeding ground.
- ➤ While these irrigation tanks have socio-economic and cultural significance, very little is known of their ecological importance.
- Large concentrations of wintering waterfowl such as Eurasian Wigeon Anas penelope, Northern Pintail Anas acuta, Garganey Anas querquedula were recorded in tanks.

# 8. Kanjirankulam Bird Sanctuary

- Kanjirankulam Bird Sanctuary is a Protected area near Mudukulathur Ramanathapuram District, Tamil Nadu. India, declared in 1989.
- ➤ It is notable as a nesting site for several migratory heron species that roost in the prominent growth of babul trees there.

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- ➤ The breeding population of migratory waterbirds arrive here between October and February and include: painted stork, white ibis, black ibis, little egret, great egret.
- ➤ The site qualifies as an IBA as the threatened Spot-billed Pelican Pelecanus philippensis breeds here.
- ➤ The wetland exhibits rich biodiversity including many globally near-threatened species like Spot-billed Pelican, Oriental Darter, Oriental white Ibis and Painted Stork and also commonly occurring shore and water birds like greenshank, plovers, stilts and forest birds like bee-eaters, bulbuls, cuckoos, starlings, barbets, etc. They act as breeding, nesting, roosting, foraging, and stopover sites for the birds.
- ➤ The wetland supports IUCN RedList vulnerable avian species like Sterna aurantia (River Tern).

#### 9. Thane Creek

- > Thane Creek is located in Maharashtra, India.
- ➤ There are several sources of fresh water to the creek, of which Ulhas River is the largest, followed by many drainage channels from various suburban areas of Mumbai, Navi Mumbai & Thane.
- ➤ It has been declared as Thane Creek Flamingo Sanctuary.
- ➤ Thane creek is fringed by mangroves on both banks & comprises around 20% of the total Indian mangrove species.
- ➤ The mangrove forest acts as a natural shelter belt & protects the land from cyclones, tidal surges, seawater seepage & intrusions. The mangrove serves as a nursery for several fishes & sustains the local fishery.
- ➤ The area is an important part of the wetland complex of the Central Asian Flyway of the birds and has been categorized as an Important Bird Area (IBA).
- ➤ Other than 202 avifaunal species, the creek also houses 18 species of fishes, crustaceans & molluscs, 59 species of butterflies, 67 species of Insects, and 35 species of phytoplankton, and 24 species of zooplankton & 23 species of Benthos.

# 10. Hygam Wetland Conservation Reserve

- ➤ Hygam Wetland falls within the River Jhelum basin and plays a significant role as a flood absorption basin, biodiversity conservation site, eco-tourism site, and livelihood security for the local communities.
- ➤ The wetland is located in the Baramulla district. It serves as an abode to many residents and migratory bird species.
- ➤ It is also recognized as an Important Bird Area (IBA).

# 11. Shallbugh Wetland Conservation Reserve

- ➤ Shallabug Wetland Conservation Reserve is located in the District Srinagar, UT of J&K.
- Large areas of the wetland dry up between September and March.
- ➤ The area has extensive reedbeds of Phragmites communis and Typha angustata, and rich growth of Nymphaea candida and N. stellata on open water.
- ➤ It serves as an abode to more than four lakh resident and migratory birds of at least 21 species.
- ➤ Shallabugh Wetland plays a major role in the natural control, amelioration or prevention of flooding.
- ➤ It is also important for seasonal water retention for wetlands or other areas of conservation importance downstream.

# Ramsar sites in India with International importance

#### 1. Ashtamudi Wetland

- ➤ It is a natural backwater in the Kollam district.
- River Kallada and Pallichal drain into it.
- ➤ It forms an estuary with Sea at **Neendakara** (a famous fishing harbor in Kerala).
- National Waterway 3 passes through it.

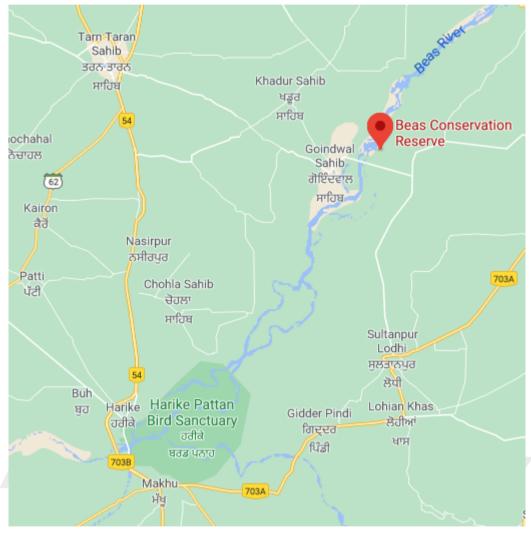




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#### 2. Beas Conservation Reserve

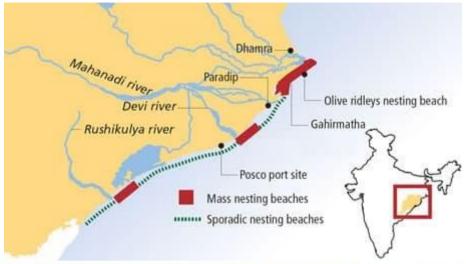
- ➤ It is a 185-kilometer stretch of the Beas River.
- ➤ The stretch is dotted with islands, sand bars, and **braided channels**.
- ➤ The Reserve hosts the only known population in India of the endangered **Indus** river dolphin.
- ➤ In 2017, a program was initiated to re-introduce the **critically endangered gharial**.

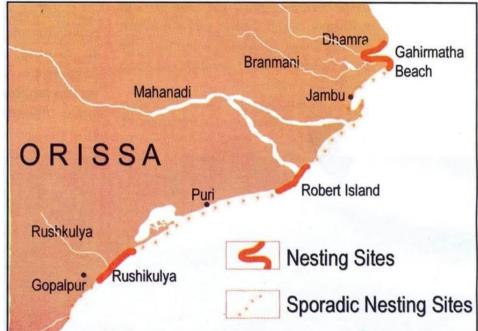


# 3. Bhitarkanika Mangroves

- ➤ It is part of Bhitarkanika Wildlife Sanctuary and designated as Ramsar Wetland of International Importance in 2002.
- ➤ **Gahirmatha Marine Wildlife** Sanctuary is adjacent to the Bhitarkanika Wildlife Sanctuary.
- ➤ It is famous for its **saltwater crocodiles** and **Olive ridley sea turtle**.
- ➤ The core area of Bhitarkanika Wildlife Sanctuary was declared Bhitarkanika National Park.
- ➤ Bhitarkanika Wildlife Sanctuary includes **Gahirmatha Marine Wildlife Sanctuary**.
- ➤ Bhitarkanikais located in the estuary of Brahmani, Baitarani, Dhamra& Mahanadi river systems.

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# 4. Bhoj Wetland

- ➤ The Wetland consists of two lakes located in the city of **Bhopal**.
- ➤ The two lakes are the Bhojtal and the Lower Lake.
- > It is a **humanmade reservoir**.
- ➤ The largest bird of India, the **sarus crane** is found here.

#### 5. Chandra Taal

- ➤ It is a high-altitude lake. Tso Chikgma or **Chandra Taal** (meaning the Lake of the Moon), or **Chandra** Tal is a lake in the Lahaul part of the **Lahul and Spiti district of Himachal Pradesh**.
- ➤ Chandra Taal is near the source of the Chandra River (a source river of the Chenab).
- ➤ It supports IUCN Red-listed **Snow Leopard**.
- ➤ Migratory species such as the **Ruddy shelduck are found in summer.**



#### 6. Chilika Lake

- ➤ It is a brackish water lagoon at the mouth of the Daya River.
- ➤ It is the **largest coastal lagoon** in India.
- ➤ Birds from as far as the Caspian Sea, Lake Baikal, Aral Sea, and other remote parts of Central Asia, Ladakh, and the Himalayas come here.
- ➤ In 1981, Chilika Lake has designated the **first Indian wetland of international importance under the Ramsar Convention**.
- ➤ **Nalbana Bird Sanctuary** is the core area of the Ramsar designated wetlands of Chilika Lake.
- ➤ The **Irrawaddy dolphin** (critically endangered) is the flagship species of Chilika lake.
- Chilka is home to the only known population of Irrawaddy dolphins in India.
- ➤ Chilika Lake is claimed to have 20% of India's seagrass distribution, which plays a vital role in oxygen production and absorption of carbon dioxide and acts as a purifier in aquatic ecology.

# 7. Deepor Beel

- A permanent freshwater lake in a former channel of the Brahmaputra river.
- ➤ It is a few kilometers to the left of **Guwahati** whereas **Pobitora Wildlife Sanctuary** is around 35 km to the right.





#### 8. East Kolkata Wetlands

- ➤ World-renowned as a model of a multiple-use wetland, the site's resource recovery systems, developed by local people through the ages, have saved the city of Kolkata from the costs of constructing and maintaining waste water treatment plants.
- ➤ The wetland forms an urban facility for treating the city's wastewater and utilizing the treated water for pisciculture and agriculture, through the recovery of nutrients in an efficient manner the water flows through fish ponds covering about 4,000 ha, and the ponds act as solar reactors and complete most of their biochemical reactions with the help of solar energy.
- ➤ Thus the system is described as "one of the rare examples of environmental protection and development management where a complex ecological process has been adopted by the local farmers for mastering the resource recovery activities" (Kundu et al., 2008).
- ➤ The wetland provides about 150 tons of fresh vegetables daily, as well as some 10,500 tons of table fish per year, the latter providing livelihoods for about 50,000 people directly and as many again indirectly. The fish ponds are mostly operated by worker cooperatives, in some cases in legal associations and in others in cooperative groups whose tenurial rights are under legal challenge.
- ➤ A potential threat is seen in the recent unauthorized use of the wastewater outfall channels by industries that add metals to the canal sludge and threaten the edible quality of the fish and vegetables.

#### 9. Harike Wetland

- ➤ It is a shallow water reservoir at the **confluence of the Beas and Sutlej rivers**.
- ➤ It is an important site for **breeding**, **wintering**, **and staging birds**, supporting over 200,000 **Anatidae** (ducks, geese, swans, etc.) during migration.
- ➤ The Punjab government has planned to **introduce amphibious vehicles** which **can run both on water and land** at Harike wetlands.
- **Reintroduction** of wild **gharials** in the Beas river **area of Harike wetlands**.

#### 10. Hokera Wetland

- Located in the northwest Himalayan biogeographic province of Kashmir, on the back of the snow-draped Pir Panchal (1,584 m asl), Hokera Wetland is only 10 km from the scenic paradise of Srinagar.
- ➤ A natural perennial wetland contiguous to the Jhelum basin, it is the only site with remaining reedbeds of Kashmir and a pathway of 68 waterfowl species like large egret, great crested grebe, little cormorant, common shelduck, tufted duck and endangered white-eyed pochard, coming from Siberia, China, central Asia, and northern Europe.
- ➤ It is an important source of food, spawning grounds, and nursery for fishes, besides offering feeding and breeding ground to a variety of water birds.

- ➤ Typical marshy vegetation complexes inhabit like *Typha, Phragmites, Eleocharis, Trapa,* and *Nymphoides* species ranging from shallow water to open water aquatic flora.
- Sustainable exploitation of fish, fodder, and fuel is significant, despite water withdrawals since 1999. Potential threats include recent housing facilities, littered garbage, and demand for increasing tourist facilities.

# 11. Kanjli Wetland

- ➤ Kanjli Wetland, a man-made Wetland, which subsumes the Kanjli Lake, located in the Kapurthala district of Punjab was created by constructing the headworks across the perennial Bien River, a tributary of the Beas River to provide irrigation facilities to the hinterland.
- The stream is considered to be the most significant in the state from the religious point of view, as it is associated with the first guru of the Sikhs, Shri Guru Nanak.

#### 12. Keoladeo National Park

- Formerly known as the **Bharatpur Bird Sanctuary**
- > A complex of ten artificial, seasonal lagoons, varying in size.
- ➤ Vegetation is a mosaic of scrub and open grassland that provides habitat for breeding, wintering, and staging migratory birds.
- ➤ The invasive growth of the grass **Paspalum distichum** has changed the ecological character of large areas of the site, reducing its suitability for certain waterbird species, notably the **Siberian crane**.
- It is also a UNESCO World Heritage site.

# 13. Keshopur-Miani Community Reserve

- ➤ The reserve is a mosaic of natural marshes, aquaculture ponds, and agricultural wetlands maintained by rainfall runoff. It is heavily human-influenced and includes a series of managed fishponds and cultivated crops such as lotus and chestnut.
- ➤ This management helps support a variety of flora, with 344 species of plants recorded in the area.
- ➤ In this way, the site is an example of wise use of a community-managed wetland, which provides food for people and supports local biodiversity.
- ➤ Threatened species present include the vulnerable common pochard (*Aythya ferina*) and the endangered spotted pond turtle (*Geoclemys hamiltonii*). The Department of Forest and Wildlife, Punjab, forms the management committee.

#### 14. Kolleru Lake

- A natural eutrophic lake situated between the river basins of the Godavari and the Krishna in Andhra Pradesh.
- The **lake serves as a natural flood-balancing reservoir** for the two rivers.
- ➤ It was previously a lagoon, but now it is several kilometers inland due to the coastline of emergence and delta formation.
- ➤ It was notified as a Wildlife Sanctuary in 1999 under India's Wild Life Protection Act,1972.
- > It was declared a **wetland of international importance in 2002** under **the** Ramsar convention.

The **Atapaka Bird Sanctuary at Kolleru Lake** has become a **safe breeding ground** for two migratory species namely, **Grey Pelicans and Painted Storks**.

- ➤ The present water level in Kolleru Lake, including Atapaka Sanctuary, is posing a slight challenge for the birds to hunt their prey in the deep waters.
- ➤ Grey Pelican and Painted Stork both are near-threatened species under the IUCN Red List of Threatened Species.

#### **Eutrophic water body**

- The eutrophic waterbody, commonly a lake or pond, has **high biological productivity.**
- ➤ Due to excessive nutrients, especially **nitrogen and phosphorus**, these water bodies are able to **support an abundance of aquatic plants**.
- ➤ Usually, the water body will be dominated either by aquatic plants or algae. When aquatic plants dominate, the water tends to be clear. When algae dominate, the water tends to be darker.



#### 15. Loktak Lake

- ➤ The largest freshwater lake in the north-eastern region of the country, which is famous for the phumdis (heterogeneous mass of vegetation, soil, and organic matters at various stages of decomposition) floating over it. Keibul Lamjao, the only floating national park in the world, floats over it.
- ➤ It is located near Moirang, Bishnupur district. The etymology of Loktak is *lok* = "stream" and *tak* = "the end".
- ➤ The Keibul Lamjao National Park, which is the last natural refuge of the endangered sangai or Manipur brow-antlered deer (*Cervus eldi eldi*), one of three subspecies of Eld's deer, covering an area of 40 km² (15 sq mi), is situated in the southeastern shores of this lake and is the largest of all the phumdis in the lake.
- ➤ This place is a global tourist destination. The Sendra tourist hub (a small hillock) is located at Moirang ~58 km from the heart of the city.

#### 16. Nalsarovar Bird Sanctuary

- A natural freshwater lake (a relict sea) that is the largest natural wetland in the Thar Desert Biogeographic Province and represents a dynamic environment with salinity and depth varying depending on rainfall.
- ➤ The area is home to 210 species of birds, with an average of 174,128 individuals recorded there during the winter and 50,000 in the summer.
- It is an important stopover site within the Central Asian Flyway, with globally threatened species such as the critically endangered sociable lapwing (*Vanellus gregarius*) and the vulnerable marbled teal (*Marmaronetta angustirostris*) stopping over at the site during migration, while the vulnerable sarus crane (*Grus antigone*) takes refuge there during summer when other water bodies are dry.
- ➤ The wetland is also a lifeline for a satellite population of the endangered Indian wild ass (*Equus hemionus khur*) which uses this area in the dry season.
- Local communities heavily rely on the lake as it provides them with a source of drinking water and water for irrigation, as well as an important source of income from fishing for catla fish (*Labeo catla*) and rohu (*Labeo rohita*). An average of 75,000 tourists visit the wetland annually.

#### 17. Nandur Madhameshwar

- ➤ The site is a mosaic of lakes, marshes and riparian forest on the Deccan Plateau. Construction of the Nandur Madhameshwar Weir at the confluence of the Godavari and Kadva rivers helped create a thriving wetland: originally designed to overcome water shortages in the surrounding area, the site now also serves as a buffer against floodwaters and as a biodiversity hotspot.
- ➤ With 536 species recorded, its diverse habitats contrast with the surrounding semi-arid conditions caused by the rain shadow of the Western Ghats mountain range. The site hosts some of India's most iconic species, such as the leopard and Indian sandalwood (*Santalum album*).

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➤ It also provides sanctuary to critically endangered species including Deolali minnow (*Parapsilorhynchus prateri*), Indian vulture (*Gyps indicus*) and white-rumped vulture (*Gyps bengalensis*). Invasive species including common water hyacinth (*Eichhornia crassipes*) threaten the site, along with the effects of urban development and water abstraction. The Office of the Conservator of Forests (Wildlife) manages the site.

### 18. Nangal Wildlife Sanctuary

- Located in the Shiwalik foothills of Punjab.
- ➤ It supports abundant flora and fauna including threatened species, such as the endangered **Indian pangolin** and Egyptian vulture.
- ➤ It occupies a human-made reservoir constructed as part of the **Bhakra-Nangal** Project in 1961.
- ➤ The site is of historic importance as the Indian and Chinese Prime Ministers formalized the "Five Principles of Peaceful Coexistence" there in 1954.

# 19. Nawabganj Bird Sanctuary

- ➤ A shallow marshland 45 kilometres from Lucknow in Uttar Pradesh. Monsoon rains feed this diverse wetland while the Sarda Canal supplies additional water.
- ➤ The sanctuary supports recreation and tourism activities as well as local biodiversity. It is a haven for birds, with 25,000 waterbirds regularly recorded and 220 resident and migratory species documented.
- Among these are globally threatened species including the endangered Egyptian vulture (*Neophron percnopterus*) and Pallas's fish eagle (*Haliaeetus leucoryphus*) as well as the vulnerable lesser adjutant (*Leptoptilos javanicus*) and woolly-necked stork (*Ciconia episcopus*).
- ➤ Protection and afforestation measures have helped increase the overall diversity of wildlife, with golden jackal (*Canis aureus*) and jungle cat (*Felis chaus*) now present. The highly invasive common water hyacinth (*Eichhornia crassipes*) poses a threat, as does the removal of timber from the forests. State forest officers along with the Office of the Conservator of Forest (Wildlife) jointly manage the sanctuary.

# 20. Parvati Arga Bird Sanctuary

- ➤ A permanent freshwater environment consisting of two oxbow lakes. These wetlands are characteristic of Uttar Pradesh and offer exceptional habitats for waterbirds, providing both roosting and breeding sites with over 100,000 birds documented in annual counts.
- ➤ The sanctuary is a refuge for some of India's threatened vulture species; the critically endangered white-rumped vulture (*Gyps bengalensis*) and Indian vulture (*Gyps indicus*), and the endangered Egyptian vulture (*Neophron percnopterus*) have all been recorded. It is also critical in the maintenance of

- hydrological regimes, ensuring groundwater recharge and discharge. Meanwhile, ancient temples around the lakes provide religious significance and encourage tourism.
- ➤ Invasive species such as the common water hyacinth (*Eichhornia crassipes*) along with the development of roads and railways present significant threats. The Uttar Pradesh divisional forest officer and chief conservator of forests along with sanctuary officers share management duties.

#### 21. Point Calimere Wildlife and Bird Sanctuary

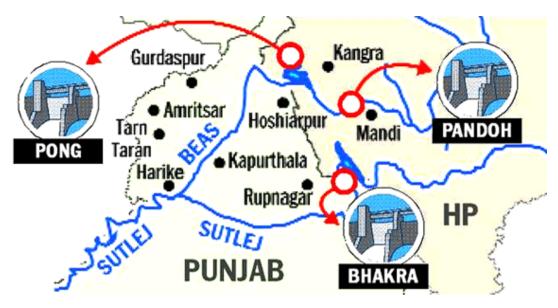
- ➤ A coastal area consisting of shallow waters, shores, long sand bars, intertidal flats, and intertidal forests, chiefly mangrove, and seasonal, often-saline lagoons, as well as human-made salt exploitation sites.
- ➤ Some 257 species of birds have been recorded, 119 of them waterbirds, including the vulnerable species spoon-billed sandpiper (*Calidris pygmaea*) and grey pelican (*Pelecanus philippensis*) and some 30,000 greater and lesser flamingos. The site serves as the breeding ground or nursery for many commercially important species of fish, as well as for prawns and crabs.
- ➤ Some 35,000 fishermen and agriculturalists support their families around the borders of the sanctuary. Illegal collection of firewood and forest produce such as fruits (gathered by lopping off tree branches), the spread of Chilean mesquite (*Prosopis chilensis*), increasingly brackish groundwater caused by expansion of the historical salt works, and decreasing inflow of freshwater are all seen as potential causes for concern.
- ➤ Visitors come to the site both for recreation and for pilgrimage, as it is associated with Lord Rama.

# 22. Pong Dam Lake

- ➤ It is also known as **Maharana Pratap Sagar**.
- ➤ **Pong Dam Lake is a water storage reservoir** created in 1975 on the **Beas River** in the low foothills of the Himalaya on the northern edge of the Indo-Gangetic plain.
- ➤ The avian habitats formed by the creation of the Pong Dam assume great significance given the **site's location on the trans-Himalayan flyway**, more than **220 bird species have been identified, with 54 species of waterfowl.**
- Fauna: Barking deer, sambar, wild boars, nilgai, leopards, and oriental small-clawed otters.

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#### 23. Renuka Lake

- ➤ A natural wetland with freshwater springs and inland subterranean karst formations, fed by a small stream flowing from the lower Himalayas out to the Giri river.
- ➤ The lake is home to at least 443 species of fauna and 19 species of fish representative of lake ecosystems like *Puntius*, *Labeo*, *Rasbora* and *Channa*.
- ➤ Prominent vegetation ranges from dry deciduous plants like *Shorea robusta*, *Terminalia elliptica*, *Dalbergia sissoo* to aquatic plants. There are 103 species of birds of which 66 are resident, e.g. crimson-breasted barbets, mynas, bulbuls, pheasants, egrets, herons, mallards and lapwings. Among ungulates, sambar, barking deer and ghorals are also abundant in the area. The lake has high religious significance and is named after Renuka, the mother of Hindu sage Parshuram, and is thus visited by thousands of pilgrims and tourists.
- ➤ Conservation measures so far include community awareness, and prevention of silt influx from eroded slopes and 50 ha of planting in the catchment. The site is managed by the Shimla Forest Department, Himachal Pradesh

# 24. Ropar Wetland

A humanmade wetland of lake and river formed by the 1952 construction of a barrage for diversion of water from the Sutlej River for drinking and irrigation. The site is an important breeding place for the nationally protected smooth-coated otter, hog deer, sambar, several reptiles, and the endangered Indian pangolin (*Manis crassicaudata*). Some 35 species of fish play an important role in the food chain, and about 150 species of local and migratory birds are supported. Local fisheries are economically significant, and wheat, rice, sugar cane, and sorghum are cultivated in the surrounding area. Deforested local hills leading to siltation, and increasing industrialization causing an inflow of pollutants, are potential threats, and invasive weeds are a further cause for concern. Nature lovers, birdwatchers, swimmers and boaters visit the site in considerable numbers



#### 25. Rudrasagar Lake

- It is a reservoir fed by three perennial streams discharging to the River Gomti.
- ➤ It is an ideal habitat for IUCN Red-listed **Three-striped Roof Turtle**.

#### 26. Saman Bird Sanctuary

➤ It is a seasonal oxbow lake on the Ganges floodplain.

# 27. Samaspur Bird Sanctuary

- ➤ It is a perennial lowland marsh typical of the Indo-Gangetic Plains.
- ➤ The Sanctuary harbours threatened species such as the endangered Egyptian vulture.

#### 28. Sambhar Lake

➤ India's largest inland salt lake, it is a key wintering area for tens of thousands of flamingos and other birds that migrate from northern Asia. The specialized algae and bacteria growing in the lake provide striking water colours and support the lake ecology that, in turn, sustains the migrating waterfowl. There is other wildlife in the nearby forests, where nilgai move freely along with deer and foxes.

#### 29. Sandi Bird Sanctuary

A freshwater marsh in the Hardoi district, the wetland is typical of the Indo-Gangetic Plain and receives most of its water from monsoon rains. Rich in aquatic plants, the site provides a productive habitat for waterfowl with over 40,000 individuals counted in 2018. It is home to over 1% of the South Asian populations of common teal (*Anas crecca*), red-crested pochard (*Netta rufina*) and ferruginous duck (*Aythya nyroca*), while the vulnerable sarus crane (*Grus antigone*) has a population of 200 individuals within the sanctuary. These figures justify its designation as an Important Bird Area by BirdLife International. The wetland is a popular recreational and tourism destination and supports farmers as a source of livestock fodder. Drought presents a threat; the sanctuary dried out leading to a subsequent collapse in waterbird populations from 2014 to 2015. The Office of the Conservator of Forests manages the site in conjunction with local forest and wildlife officers.

# 30. Sarsai Nawar Jheel

- ➤ It is a permanent marsh.
- ➤ It is an example of co-habitation of humans and wildlife.
- ➤ The site's name is derived from the large non-migratory **sarus crane**.



#### 31. Sasthamkotta Lake

- It is the largest freshwater lake in Kerala, situated in Kollam district.
- ➤ River Kallada had a unique replenishing system through a bar of paddy field.
- ➤ The lake is now depleting due to destruction of replenishing mechanism.

#### 32. Sundarban Wetland

- ➤ Sundarban Wetland is located within the largest mangrove forest in the world.
- ➤ It is the largest Ramsar Site in India.
- ➤ The Indian Sundarban, covering the south-westernmost part of the delta, constitutes over 60% of the country's total mangrove forest area and includes 90% of Indian mangrove species.

#### 33. Surinsar-Mansar Lakes

Freshwater composite lake in semi-arid Panjab Plains, adjoining the Jhelum Basin.

#### 34. Tsomoriri (Tso Moriri)

- ➤ Tso Moriri or Lake Moriri or "Mountain Lake", is a lake in the Changthang Plateau (literally: northern plains) in Ladakh
  - Changpa Tribes or Champa are semi-nomadic Tibetan people found mainly in the Changtang in Ladakh and in Jammu and Kashmir.
- A freshwater to brackish lake lying at 4,595m above sea level.
- ➤ The site is said to represent the only breeding ground outside of China for one of the most endangered cranes, the **Black-necked crane**, and the only breeding ground for **Bar-headed geese** in India.
- ➤ The Great Tibetan Sheep or Argali and Tibetan Wild Ass are endemic to the region.
- ➤ With no outflow, evaporation in the arid steppe conditions causes varying levels of salinity.

# 35. Upper Ganga River (Brijghat to Narora Stretch)

➤ The river provides habitat for IUCN Red listed **Ganges River Dolphin** and **Gharial Crocodile**.

#### 36. Vembanad-Kol Wetland

- ➤ The **largest lake of Kerala**, spanning across Alappuzha, Kottayam, and Ernakulam districts.
- > It is the second-largest Ramsar Site in India after Sundarbans.
- > It is also the longest lake in India.
- ➤ It is below sea level and is famous for exotic fish varieties and Paddy fields that are below sea level.
- ➤ The 'Kumarakom Bird Sanctuary' is located on the east coast of the lake.



#### 37. Wular Lake

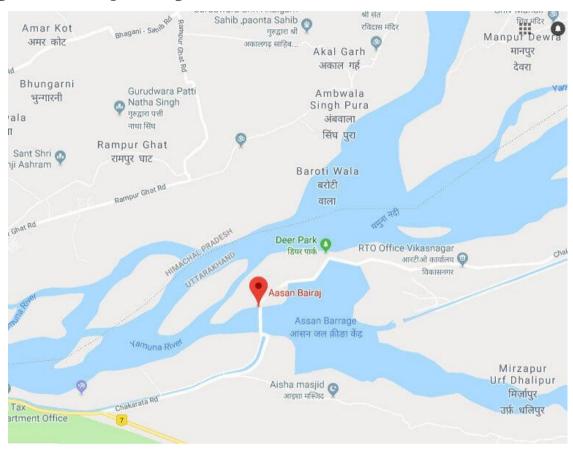
- > It is the largest freshwater lake in India.
- ➤ The lake basin was formed as a **result of tectonic activity** and is **fed by the Jhelum River**.
- ➤ The **Tulbul Project** is a "navigation lock-cum-control structure" at the mouth of Wular Lake.



#### 38. Asan Conservation Reserve

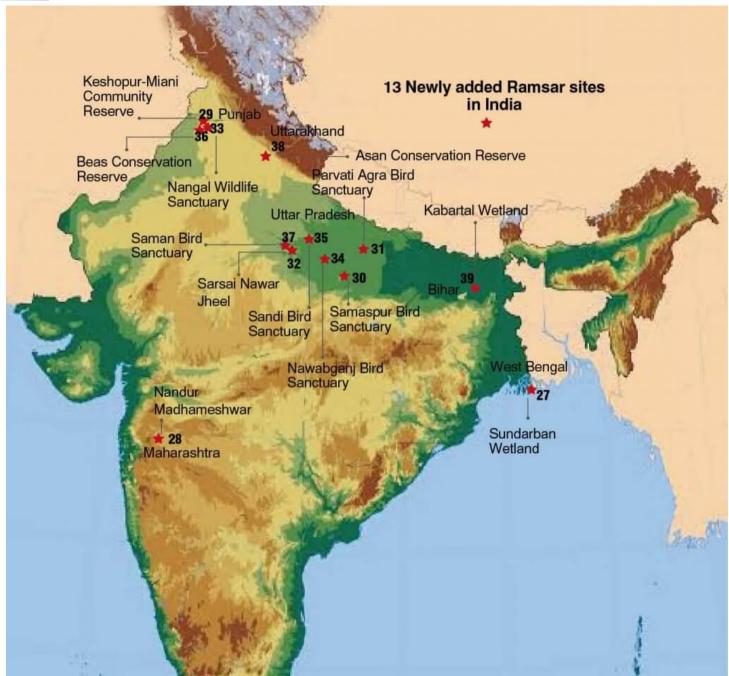
- ACR is a 444-hectare stretch of the Asan River running down to its confluence with the Yamuna River in the Dehradun district of Uttarakhand. It is Uttarakhand's first Ramsar Site.
- ➤ The damming of the River by the **Asan Barrage in 1967** resulted in siltation above the dam wall, which helped to create some of the Site's bird-friendly habitats.

- These habitats **support 330 species of birds** including the **critically endangered red-headed vulture** (*Sarcogyps calvus*), **white-rumped vulture** (*Gyps bengalensis*), and **Baer's pochard** (*Aythya baeri*).
- ➤ Other non-avian species present include **49 fish species**, one of these being the **endangered Putitora mahseer** (*Tor putitora*). Fish use the site for feeding, migration, and spawning.



#### 39. Kabartal Wetland

- ➤ Also known as **Kanwar Jheel**, it covers 2,620 hectares of the **Indo-Gangetic** plains in the Begusarai district of Bihar.
- ➤ It acts as a vital flood buffer for the region besides providing livelihood opportunities to local communities.
- ➤ **Significant biodiversity** is present, with 165 plant species and 394 animal species recorded, including 221 bird species. It is also a **valuable site for fish biodiversity** with over 50 species documented.
- ➤ It is an **important stopover along the Central Asian Flyway**, with 58 migratory waterbirds using it to rest and refuel.
- Five critically endangered species inhabit the site, including three vultures the red-headed vulture (Sarcogyps calvus), white-rumped vulture (Gyps bengalensis) and Indian vulture (Gyps indicus) and two waterbirds, the sociable lapwing (Vanellus gregarius) and Baer's pochard (Aythya baeri).
- Major threats to the Site include water management activities such as drainage, water abstraction, damming and canalization.



#### 40. Soor Sarovar Lake

➤ It is also known as **Keetham lake** situated within the **Soor Sarovar Bird Sanctuary**, which was declared as a bird sanctuary in the year 1991.

#### Location:

- This lake is situated alongside the river **Yamuna** in Agra, Uttar Pradesh.
- The Soor Sarovar bird sanctuary covered an area of 7.97 sq km.
- > It is today home to more than 165 species of migratory and resident birds.
- ➤ It also has a **Bear Rescue center** for rescued dancing bears.



#### 41. Lonar Lake

- ➤ The **Lonar lake**, situated in the Deccan Plateau's volcanic basalt rock, was created by the **impact of a meteor** 35,000 to 50,000 years ago.
  - The lake is part of **Lonar Wildlife Sanctuary** which falls under the unified control of the **Melghat Tiger Reserve (MTR)**.
- ➤ It is also known as a Lonar crater and is a notified **National Geo-heritage Monument**. Geo-heritage refers to the geological features which are inherently or culturally significant offering insight to earth's evolution or history to earth science or that can be utilized for education.
- ➤ It is the second Ramsar site in Maharashtra after **Nandur Madhmeshwar Bird Sanctuary in the Nashik district**.
- ➤ The water in the lake is **highly saline and alkaline**, containing **special microorganisms like anaerobes**, Cyanobacteria, and phytoplankton.



# 42. Tso Kar Wetland Complex (Tso Kar Lake)

- ➤ Ladakh's **Tso Kar Wetland Complex** has been recognized as a wetland of international importance, becoming India's 42nd Ramsar site. This is the **second Ramsar site in the Union Territory of Ladakh**. It is a high-altitude wetland complex, found at more than **4,500 meters above sea level** in the Changthang region of Ladakh.
- ➤ The Tso Kar Basin is a high-altitude wetland complex, which comprises **two principal waterbodies Startsapuk Tso** and **Tso Kar Lake** situated in Ladakh's Changthang region.
- > Startsapuk Tso is a freshwater lake and Tso Kar is a hypersaline lake.
- ➤ The TSO Kar name means white lake and it was given because of the white salt efflorescence found on the margins of the wetlands due to the evaporation of highly saline water.
- ➤ The **TSO Kar basin is categorized as A1 Category Important Bird Area (IBA)** as per BirdLife International and is also a key staging site in the Central Asian Flyway.
- The basin is one of the most important breeding areas of the Black-necked Crane (Grus nigricollis) in India.
- ➤ It is also a major breeding area for the Bar-headed Geese (Anserindicus), Great Crested Grebe (Podicepscristatus), Ruddy Shelduck (Tadornaferruginea), Lesser Sand-Plover (Charadriusmongolus) and Brown-headed Gull (Larusbrunnicephalus), and many other species.





#### Global Important Bird Area Criteria

Based on the criteria, the Global Important Bird Areas are classified as follows:

- ➤ A1 Category: Globally Threatened Species. The sites under this category hold bird population that is categorized as Critically Endangered, Endangered or Vulnerable by the IUCN Red List of Threatened Species.
- ➤ **A2 Category**: Restricted Range species
- ➤ **A3**: Biome Restricted Species
- ➤ **A4**: Congregations

### 43. Sultanpur National Park, Haryana

- ➤ Sultanpur National Park (formerly Sultanpur Bird Sanctuary) is located at Sultanpur village on Gurugram-Jhajjar highway, 15 km from Gurugram, Haryana, and 50 km from Delhi in India.
- ➤ More than 10 globally threatened, including the critically endangered sociable lapwing, and the endangered Egyptian Vulture, Saker Falcon, Pallas's Fish Eagle, and Black-bellied Tern birds are found here.
- ➤ It is essentially a bird watcher's paradise.

# 44. Bhindawas Wildlife Sanctuary

- ➤ It is a **human-made freshwater wetland**, located in Jhajjar district, Haryana.
- ➤ It is an important part of the ecological corridor along the route of **Sahibi River** which traverses from Aravalli hills in Rajasthan to the Yamuna.
- ➤ It shares its border with **Khaparwas Wildlife Sanctuary** (Haryana).

#### 45. Thol Lake

- ➤ It is located in the Mehsana district of Gujarat. It is a **shallow freshwater reservoir** and a predominantly open water area. **It is a man-made wetland.**
- ➤ It 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.

#### 46. Wadhvana Wetland

- It is located in Dabhoi Tehsil (Taluka), Vadodara district, Gujarat.
- River Orsang (which joins with the Narmada River at Chandod) flows into the lake.
- ➤ The **red-crested pochard** (Netta rufina), a duck that is otherwise rare in Western India, is regularly recorded here during winter.
- ➤ It is internationally important for its **birdlife** as it provides wintering ground to migratory waterbirds, including over 80 species that migrate on the **Central Asian Flyway**.



#### 47. Haiderpur Wetland

- ➤ The Haiderpur Wetland is spread over an area of 6908 hectares on the Muzaffarnagar-Bijnor border between the Ganges and the Solani River.
- ➤ It is a part of Hastinapur Wildlife Sanctuary.
- ➤ Haiderpur Wetland is a man-made lake, which was formed in 1984. The biodiversity here attracts birds. Exotic birds reach here by crossing the hills of Mongolia.
- Also there are many species of dolphins, turtles, alligators, crocodiles, butterflies and deer etc. There are over 30 plant species and over 300 bird species, as well as over 40 fish species and over 102 waterfowl species.

# 48. Khijadia Wildlife Sanctuary

- ➤ Khijadiya Bird Sanctuary (KBS) is a unique wetland ecosystem located in Jamnagar district on the southern coast of the Gulf of Kutch, of **Gujarat state**.
- ➤ Khijadiya Bird Sanctuary (KBS) is one of the **Important Bird Area (IBA)** from Gujarat state.
- ➤ Khijadiya Wildlife Sanctuary joins with Marine National Park on one side and on the other Dhunvav river empties fresh water in it.
- ➤ The sanctuary is having a unique habitat with fresh water on one side and salt pans on another side.
- Also, on the northern side is a large creek that flows from the Gulf of Kutch. This supports mangroves and marine diversity.
- ➤ There are two freshwater lakes (reclamation dam) located in the Sanctuary.
- Many migratory birds stop here during the winter.
- ➤ This sanctuary provides a nesting and breeding ground for migratory birds.
- ➤ The sanctuary is located at the watershed of Ruparel and Kalindri river at the North East coastal region of Jamnagar district in the Gulf of Kutch.

# 49. Bakhira Wildlife Sanctuary

- ➤ The Bakhira Bird Sanctuary is the largest natural flood plain wetland of India in Sant Kabir Nagar district of Eastern Uttar Pradesh.
- ➤ The sanctuary was established in 1980. It is situated 44 km west of Gorakhpur city.
- ➤ Bakhira bird sanctuary also known as Bakhira Tal, located to the west of the **Rapti riverbank**, is a shallow-water, river-connecting wetland.
- ➤ Bakhira Tal (wetland) is the largest natural wetland of Eastern U.P. It is a perennial wetland, where the source of water is natural rain and the Ami River, a tributary of the Rapti River.
- Apart from birds, the Sanctuary has a variety of trees, shrubs, hydrophytes.
- ➤ About 40,000 birds belonging to about 30 species have been recorded during winters.
- It is a vast stretch of water body expanding over an area of 29 sq. km.

- - ➤ The landscape and terrain of the wetland is almost flat, representing a typical 'Terai' landscape.
  - ➤ The sanctuary is named after the village Bakhira located adjacent to the lake.



# 50. Karikili Bird Sanctuary (Tamil Nadu)

➤ The sanctuary is spread over a five-kilometer-wide belt and is home to cormorants, egrets, grey heron, open-billed stork, darter, spoonbill, white lbis, night herons, grebes, grey pelican among others.

# 51. Pallikaranai Marsh Reserve Forest (Tamil Nadu)

- ➤ One of the **last remaining natural wetlands**, the marsh drains in an area of 250 square kilometres encompassing 65 wetlands.
- The Pallikaranai Marsh is one of the few natural coastal aquatic habitats that qualify as a wetland in India.

# 52. Pichavaram Mangrove (Tamil Nadu)

- ➤ One of the last **mangrove forests** in the country.
- ➤ It has an island of a vast expanse of water covered with mangrove forests.

# 53. Sakhya Sagar (Madhya Pradesh)

➤ Created from the **Manier river** in 1918, Sakhya Sagar is located near **Madhav National Park**.



#### 54. Pala Wetland in Mizoram (Mizoram)

- It is home to a wide range of animals, birds, and reptiles.
- ➤ Its geographical location **falls under the Indo-Burma biodiversity hotspot** and is therefore rich in animal and plant species.
- ➤ The lake is a **major component of the Palak Wildlife Sanctuary** and it supports the major biodiversity of the sanctuary.

#### 55. Koothankulam Bird Sanctuary

- ➤ It adjoins the tiny village of Koonthankulam in Nanguneri Taluk of Tirunelveli district, **Tamil Nadu**.
- ➤ It is an **Important Bird and Biodiversity Area (IBA)** on the Central Asian Flyway. This is the largest reserve for breeding water birds in South India.

# 56. Gulf of Mannar Marine Biosphere Reserve

- ➤ The Gulf of Mannar is a large shallow bay forming part of the Laccadive Sea in the Indian Ocean with an average depth of 5.8 m. It lies between the southeastern tip of India and the west coast of Sri Lanka, in the Coromandel Coast region.
- ➤ Gulf of Mannar is one of the **biologically richest coastal regions in all of the mainland of India**. It is the first Marine Biosphere Reserve in South and South East Asia.
- In India, the Gulf of Mannar region in Tamil Nadu is one of the four major coral reef areas and the others are Gulf of Kutch in Gujarat, Lakhsadweep and Andaman and Nicobar islands.
- ➤ The Gulf of Mannar includes three distinct Coastal ecosystems. Those three ecosystems are coral reef, seagrass bed, and mangroves (world's richest region from a marine biodiversity perspective), which is a storehouse of marine diversity of global significance and is known for its unique biological wealth.

# 57. Vembannur Wetland Complex

- ➤ Vembannur Wetland Complex is a man-made inland tank which forms the southernmost tip of peninsular India.
- ➤ This wetland forms part of the Important Bird and Biodiversity Area and hence part of the BirdLife International Data Zone.

# 58. Vellode Bird Sanctuary

- ➤ Vellode Birds Sanctuary is an 80 ha sanctuary **located in the Erode District in the state of Tamil Nadu.**
- ➤ This **human-made** tank is an ideal habitat for birds, due to the abundant food resources it provides from neighbouring agricultural fields, and other aquatic organisms.

# 59. Vedanthangal Bird Sanctuary

- ➤ Vedanthangal Bird Sanctuary is a 30-hectare protected area located in the Madurantakam taluk of the **Chengalpattu District in the state of Tamil Nadu.**
- ➤ The sanctuary is about 75 kilometers from Chennai on National Highway 45.
- ➤ Vedanthangal is home to migratory birds such as **pintail**, **garganey**, **grey** wagtail, blue-winged teal, common sandpiper, and the like.
- ➤ Vedanthangal is the **oldest water bird sanctuary in the country**.
- ➤ Vedanthangal in Tamil language means 'hamlet of the hunter'.

# 60. Udhayamarthandapuram Bird Sanctuary

- Udayamarthandapuram Bird Sanctuary is a protected area in Tiruvarur District, Tamil Nadu.
- ➤ A notable aspect of the sanctuary is a large number of purple moorhen and openbill storks during February and March.
- ➤ The Sanctuary consists of human-made irrigation tanks, interconnected by an ancient network of canals and fed by the **Mettur dam** through the Koraiyar canal.

# 61. Satkosia Gorge (Odisha)

- ➤ Satkosia Gorge is a gorge in eastern Odisha, carved by the Mahanadi River.
- ➤ The gorge is **located within the Satkosia Tiger Reserve** which is a United Nations Protected area.

# 62. Nanda Lake (Goa)

- ➤ Nanda Lake comprises intermittent freshwater marshes that lie adjacent to one of the major tributaries of the Zuari River.
- ➤ They are linked to the adjacent river channel by a sluice gate, which when closed enables the flooding of the marshes.
- ➤ This wetland supports a wide variety of migratory waterbirds and many other important plants and animals.
- Notable bird species include black-headed ibis, common kingfisher, wiretailed swallow, bronze-winged jacana, brahminy kite, intermediate egret, little cormorant, and lesser whistling duck.
- ➤ The Site enables local communities to store water during the off-monsoon season, to cultivate rice paddies downstream of the lake, and support fishing and recreation. The lake also protects downstream areas from monsoon floods.
- ➤ Threats include invasive non-native species, garbage, and solid waste, overfishing, and harvesting of aquatic resources.



#### 63. Ranganathittu Bird Sanctuary(Karnataka)

- Ranganthittu Bird Sanctuary is a part of the Kaveri River on the Southern Deccan Plateau.
- ➤ This region comprises gently rolling plains traversed by several of the large rivers that rise in the Western Ghats mountain range and flow eastward to the Bay of Bengal.
- ➤ The Site is an ecologically important riverine wetland, rich in plant and animal species.
- ➤ It supports healthy populations of mugger crocodile, smooth-coated otter, and hump-backed mahseer.
- ➤ The Site also supports over 1% of the global population of a painted stork, spot-billed pelican, and black-headed ibis and as such it is classified as an Important Bird and Biodiversity Area (IBA).
- ➤ The **Site is classified as an Eco-Sensitive Zone** and a management plan is currently being implemented to safeguard its ecological integrity as well as the ecosystem services provided to the local communities.

# 64. Sirpur Wetland (Madhya Pradesh)

- ➤ Sirpur Wetland is a **human-made wetland** that has stabilized and acquired near-natural characteristics in the last two centuries.
- Sirpur Lake is located on Indore-Dhar Road in Indore.
- ➤ the Site is a **shallow**, **alkaline**, **nutrient-rich lake** that floods during the monsoon to a maximum depth of two metres.

# Criteria for Identification of Wetlands under Ramsar Convention If a wetland –

- > contains a representative, rare, or unique example of a natural or near-natural wetland type.
- supports vulnerable, endangered, or critically endangered species; or threatened ecological communities.
- supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
- > supports plant and/or animal species at a critical stage in their life cycles or provides refuge during adverse conditions.
- regularly supports 20,000 or more water birds.
- regularly supports 1% of the individuals in a population of one species or subspecies of water birds.
- > supports a significant proportion of indigenous fish subspecies
- ➤ is an important source of food for fishes, spawning ground, nursery and/or migration path.
- ➤ is an important source of food and water resource, increased possibilities for recreation and eco-tourism, etc.



#### Wetlands International

- ➤ Wetlands International is a global organization (NGO) that works to sustain and restore wetlands and their resources for people and biodiversity.
- ➤ Wetlands International's work ranges from research, advocacy, and engagement with governments, corporate and international policy fora, and conventions.

# **National Wetlands Conservation Programme (NWCP)**

- NWCP was implemented in the year 1985-86.
- ➤ Under the programme, 115 wetlands have been identified by the MoEF which require urgent conservation and management interventions.
- ➤ Criteria for identification of wetlands of national importance under NWCP are the same as those prescribed under the **Ramsar Convention on Wetlands**.
- ➤ The **Central Government** is responsible for the overall coordination of wetland conservation programmes.
- ➤ It also provides guidelines, financial & technical assistance to state govt.
- ➤ Since the land resources belong to them, the State Governments/UT Administration are responsible for the **management of wetlands**.

#### Aim:

➤ Conservation of wetlands to prevent their further degradation and to ensure their wise use for the benefit of local communities and overall conservation of biodiversity.

# **Objectives**

- to lay down policy guidelines for conservation and management of wetlands.
- ➤ to provide financial assistance for undertaking intensive conservation measures.
- > to monitor the implementation of the programme.
- > to prepare an inventory of Indian wetlands.

# Wetland Conservation and Management Rules 2017 - Provisions

- ➤ Wetlands are regulated under the Wetlands (Conservation and Management) Rules, 2017. The 2010 version of the Rules provided for a Central Wetland Regulatory Authority, but new Rules of 2017 replaced it 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, lagoons, creeks, and estuaries. Under the 2017 regulations process to identify the wetlands has been delegated to the States.
- Constitution of State Wetland Authority: It has provisions for setting up of a State Wetland Authority (SWA) in every state and Union Territory to be headed by the Environment Minister of the respective state. It is to include a

range of government officials. **One expert each** in the fields of hydrology, socioeconomics, landscape planning, fisheries, and wetland ecology. They will determine the 'wise use principle' that shall govern the management of wetlands. "Wise use" can be defined as the principles of sustainable use that are compatible with conservation. This has led to the decentralization of powers. The SWA shall:

- Develop a comprehensive list of activities to be regulated and permitted within notified wetlands and their zone of influence.
- Recommend additional prohibited activities for specified wetlands.
- Define strategies for better use of wetlands.
- Recommend measures for wetland conservation and for raising awareness among its stakeholders and local communities with respect to the importance of wetlands.
- Setting up of National Wetland committee: NWC will replace the Central Wetlands Regulatory Authority and shall be headed by the secretary to MoEFCC.

# **National Wetland Committee (NWC)**

National Wetland Committee (NWC) will be set up for

- Monitoring the implementation of rules
- ➤ Advising the central government on appropriate policies and action programs for conservation and wise use of wetlands.
- ➤ Recommending designation of Wetlands of International importance under the Ramsar Convention.
- ➤ Advice collaboration with international agencies on issues related to wetlands.
- ➤ Setting up a digital inventory: It is compulsory for all the state authorities to prepare a list of all the wetlands. Based on this, a digital inventory for wetlands will be created and updated every 10 years.
- ➤ **Prohibited activities:** The rules prohibit the discharge of unwanted waste from villages, towns, cities, industries, etc., and solid waste dumping into the wetlands. Conversion of wetland area for non-wetland purposes, construction of a permanent structure on notified wetlands is banned.
- These rules shall apply to wetlands notified by the State government, Central government, Union territory Administrations, and those classified as wetlands of international importance under the Ramsar convention.

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List of sites (as of August 2022)

No.	Name	Location	Designated
1	Ashtamudi Wetland	Kerala	18-Aug-2002
2	Beas Conservation Reserve	Punjab	O
3		,	26-Sep-2019
	Bhitarkanika Mangroves	Odisha	19-Aug-2002
4	Bhoj Wetland	Madhya Pradesh	19-Aug-2002
5	Chandra Taal	Himachal Pradesh	8-Nov-2005
6	Chilika Lake	Odisha	1-Oct-1981
7	Deepor Beel	Assam	19-Aug-2002
8	East Kolkata Wetlands	West Bengal	19-Aug-2002
9	Harike Wetland	Punjab	23-Mar-1990
10	Hokera Wetland	Jammu and Kashmir	8-Nov-2005
11	Kanjli Wetland	Punjab	22-Jan-2002
12	Keoladeo National Park	Rajasthan	1-Oct-1981
13	Keshopur-Miani Community Reserve	Punjab	26-Sep-2019
14	Kolleru Lake	Andhra Pradesh	19-Aug-2002
15	Loktak Lake	Manipur	23-Mar-1990
16	Nalsarovar Bird Sanctuary	Gujarat	24-Sep-2012
17	Nandur Madhameshwar	Maharashtra	21-Jun-2019
18	Nangal Wildlife Sanctuary	Punjab	26-Sep-2019
19	Nawabganj Bird Sanctuary	Uttar Pradesh	19-Sep-2019
20	Parvati Arga Bird Sanctuary	Uttar Pradesh	2-Dec-2019
21	Point Calimere Wildlife and Bird Sanctuary	Tamil Nadu	19-Aug-2002
22	Pong Dam Lake	Himachal Pradesh	19-Aug-2002
23	Renuka Lake	Himachal Pradesh	8-Nov-2005
24	Ropar Wetland	Punjab	22-Jan-2002
25	Rudrasagar Lake	Tripura	8-Nov-2005
26	Saman Bird Sanctuary	Uttar Pradesh	2-Dec-2019
27	Samaspur Bird Sanctuary	Uttar Pradesh	3-Oct-2019
28	Sambhar Lake	Rajasthan	23-Mar-1990
29	Sandi Bird Sanctuary	Uttar Pradesh	26-Sep-2019
30	Sarsai Nawar Jheel	Uttar Pradesh	19-Sep-2019
31	Sasthamkotta Lake	Kerala	19-Aug-2002
32	Haiderpur Wetland	Uttar Pradesh	13-Apr-2021
33	Sundarban Wetland	West Bengal	30-Jan-2019
34	Surinsar-Mansar Lakes	Jammu and Kashmir	8-Nov-2005
35	Tsomoriri	Ladakh	19-Aug-2002
36	Upper Ganga River (Brijghat to Narora Stretch)	Uttar Pradesh	8-Nov-2005
37	Vembanad-Kol Wetland	Kerala	19 August 2002
38	Wular Lake	Jammu and Kashmir	23-Mar-1990



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39	Acan Parriago	Littagaldagad	21 11 2020
	Asan Barrage	Uttarakhand	21-Jul-2020
40	Kanwar Taal or Kabar Taal Lake	Bihar	21-Jul-2020
41	Sur Sarovar	Uttar Pradesh	21-Aug-2020
42	Lonar Lake	Maharashtra	22-Jul-2020
43	Tso Kar	Ladakh	17-Nov-2020
44	Sultanpur National Park	Haryana	25-May-2021
45	Bhindawas Wildlife Sanctuary	Haryana	25-May-2021
46	Thol Lake	Gujarat	5-Apr-2021
47	Wadhvana Wetland	Gujarat	5-Apr-2021
48	Bakhira Sanctuary	Uttar Pradesh	29-Jun-2021
49	Khijadiya Bird Sanctuary	Gujarat	13-Apr-2021
50	Karikili Bird Sanctuary	Tamil Nadu	8-Apr-2022
51	Pallikaranai Marsh Reserve Forest	Tamil Nadu	8-Apr-2022
52	Pichavaram Mangrove Forest	Tamil Nadu	8-Apr-2022
53	Pala Wetland	Mizoram	31-Aug-2021
54	Sakhya Sagar	Madhya Pradesh	7-Jan-2022
55	Satkosia Gorge	Odisha	12-Oct-2021
56	Nanda Lake	Goa	8-Jun-2022
57	Gulf of Mannar Marine Biosphere Reserve	Tamil Nadu	8-Apr-2022
58	Ranganathittu Bird Sanctuary	Karnataka	15-Feb-2022
59	Vembannur Wetland Complex	Tamil Nadu	8-Apr-2022
60	Vellode Bird Sanctuary	Tamil Nadu	8-Apr-2022
61	Udhayamarthandapuram Bird Sanctuary	Tamil Nadu	8-Apr-2022
62	Vedanthangal Bird Sanctuary	Tamil Nadu	8-Apr-2022
63	Sirpur Lake	Madhya Pradesh	7-Jan-2022
64	Koonthankulam Bird Sanctuary	Tamil Nadu	8-Nov-2021
65	Tampara Lake	Odisha	13-Aug-2022
66	Hirakud Reservoir	Odisha	13-Aug-2022
67	Ansupa Lake	Odisha	13-Aug-2022
68	Yashwant Sagar	Madhya Pradesh	
69	Chitrangudi Bird Sanctuary	Tamil Nadu	
70	Suchindram Theroor Wetland Complex	Tamil Nadu	13-Aug-2022
71	Vaduvur Bird Sanctuary	Tamil Nadu	- C
72	Kanjirankulam Bird Sanctuary	Tamil Nadu	
73	Thane Creek	Maharashtra	
74	Hygam Wetland Conservation Reserve	Jammu and Kashmir	
75	Shallbugh Wetland Conservation Reserve	Jammu and Kashmir	