



Gulf of Mannar

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Why is in news? Gulf of Mannar: A Marine Biodiversity Marvel

- The Gulf of Mannar, the **first Marine Biosphere Reserve in the South East Asia**, running down south from **Thoothukudi, Tirunelveli, Rameswaram and Kanyakumari in Tamil Nadu**, encompasses a chain of 21 islands with a total area of 10,500 sq. km.
- The Gulf of Mannar has been **renowned for its highly productive pearl banks and religious significance**. Recognizing its rich biodiversity, the Government of India designated it as the country's **first Marine Biosphere Reserve in 1989**.
- Gulf of Mannar National Park has also been identified as the **important Bird Area by BNHS-Birdlife International** because of rich avian fauna consist of 187 species and the Gulf of Mannar Biosphere Reserve has been **identified as an Important Marine Mammals Areas of the World by IUCN** due to its dugong population and other marine mammals presence.
- At present, there are **two zones exist in Biosphere Reserve (BR)** such as **Core Zone (National Park) that is surrounded by Buffer Zone**.
- The core conservation areas in which **disturbing/destructive uses are strictly prohibited**.
- This zone can also protect breeding populations of fishes and other organisms. Buffer zone is proposed to be permitted for local people's use such as fishing and fisheries related activities, tourism and tourism related activities.
- The Gulf of Mannar is **not only a haven for marine biodiversity but also a lifeline for thousands of fishing families along its coasts**.
- Approximately 110,000 families from 268 fishing villages depend on the fishery resources within the reserve. The close relationship between these communities and the marine environment has shaped their lifestyle, culture, and social fabric, making the sea the center of their existence.
- Also, a part of this biosphere are marine components including algae communities, sea grasses, coral reefs, salt marshes and mangroves.
- Home to an **affluent diversity of aquatic plants and animals**, the national park has identified the presence of around 3600 plant and animal species. These even include endangered species including the **sea cow and 6 mangrove species**. One can find five species of turtles and several other marine species like **dolphins, whales, sea cucumber and dugongs**.

Some of the prominent species are:

1. **Dugong (Sea cow):** The Gulf of Mannar area is the **last refuge of any significance off the Indian coast** where the **most endangered mammal, Dugong (Dugong dugon) occurs**. Here, the **seagrass beds are the ideal feeding ground** for the endangered marine mammal, Seacow (Dugong dugon). The Dugong feeds only on seagrasses and requires 30-40 kg of them every day. Seagrasses are also fed upon by various herbivorous animals including turtles, fishes, etc.
2. **Sea turtles:** **Four of the seven species of sea turtles found worldwide are reported** to occur in the Gulf of Mannar Biosphere Reserve. These are the **olive ridley** (*Lepidochelys olivacea*), **green** (*Cheloniemydas*), **hawksbill** (*Eretmochelys imbricata*) and **leatherback** (*Dermodochelys coriacea*). All the four species of sea turtles that occur in these coastal waters are protected **under Schedule I** of the Indian Wildlife Protection Act (1972), as well as listed in **Appendix I** of Convention of International Trade in Endangered Species of Wild

Fauna and Flora (CITES) which prohibits trade in turtle products by signatory countries.

3. **Lobsters:** Stock enhancement and fattening of lobsters *Panulirus homarus* and *P. polyphagus* in this region is expected to improve the livelihood of the coastal fishermen who are fishing in the buffer zone of the Biosphere Reserve.
4. **Crabs:** Of the 11 important commercial crabs in India, six crab species occur in BR. It is essential to enhance the stock of these economically important crabs in this region i.e. in the core zone of the Biosphere Reserve, which ultimately spill over to the buffer zone where controlled and sustainable fishing is allowed.
5. **Sea snakes:** A total of 12 species of sea snakes have been reported in the Gulf of Mannar region.
6. **Coastal Birds:** A total of 187 species of birds were reported from the Gulf of Mannar Marine National Park, of which 84 were aquatic species and the remaining are terrestrial.

Coral reef ecosystem:

- Corals and coral reefs of Gulf of Mannar National Park form an essential ecosystem, which supports a variety of ecologically and economically important marine life.
- Coral reefs in Gulf of Mannar occur mainly **around the 21 uninhabited islands** encompassing an area of about 683 ha. The islands in Gulf of Mannar Marine National Park are divided into three groups namely, **Mandapam group (7 Islands), Keelakarai group (7 Islands) and Tuticorin group (7 Islands).**