India gets its first Dugong Conservation Reserve in Tamil Nadu

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What's in News?

Tamil Nadu notified **the India's first 'Dugong Conservation Reserve'** in Palk Bay covering the coastal waters of **Thanjavur and Pudukottai districts** with an area of 448 square kilometers.

Dugong:

- Dugong or the sea cow is the **State animal of Andaman & Nicobar Islands.**
- This **largest herbivorous marine mammals** in the world thriving **primarily on seagrass beds** and other aquatic vegetation found in the area.
- It is the only herbivorous mammal that is strictly marine and is the only extant species in the family Dugongidae.
- These marine mammals can weigh up to 300 kg, measuring 3.5 to 5 meters in length.
- Dugongs have an expanded head and trunk-like upper lip.
- Elephants are considered to be their closest relatives.
- However, unlike dolphins and other cetaceans, sea cows have two nostrils and no dorsal fin.

Habitat:

- Distributed in **shallow tropical waters in the Indo-Pacific region**, in India, they are found in the Gulf of Kutch, Gulf of Mannar, Palk Bay, and Andaman & Nicobar Islands.
- There are only about 240 individuals estimated to be present in the country and the majority is found in Tamil Nadu coast (Palk Bay).
- Dugongs occur in over 40 countries in the Indian Ocean and western Pacific Ocean and are able to move into different home ranges, travelling hundreds of kilometers in a few days.

Protection Status:

- Dugongs are protected under **Schedule 1 of the Wild Life (Protection) Act, 1972**.

- The dugong is listed as **vulnerable in the International Union for Conservation of Nature Red List of Threatened Species**
- It is covered under the **Appendix I of CITES**

Threats:

(i) Habitat Loss: Their population is on the decline due to habitat loss. This is attributed to the increase in conversion of coastal forests to banana, areca nut, and coconut plantations and high boat traffic.

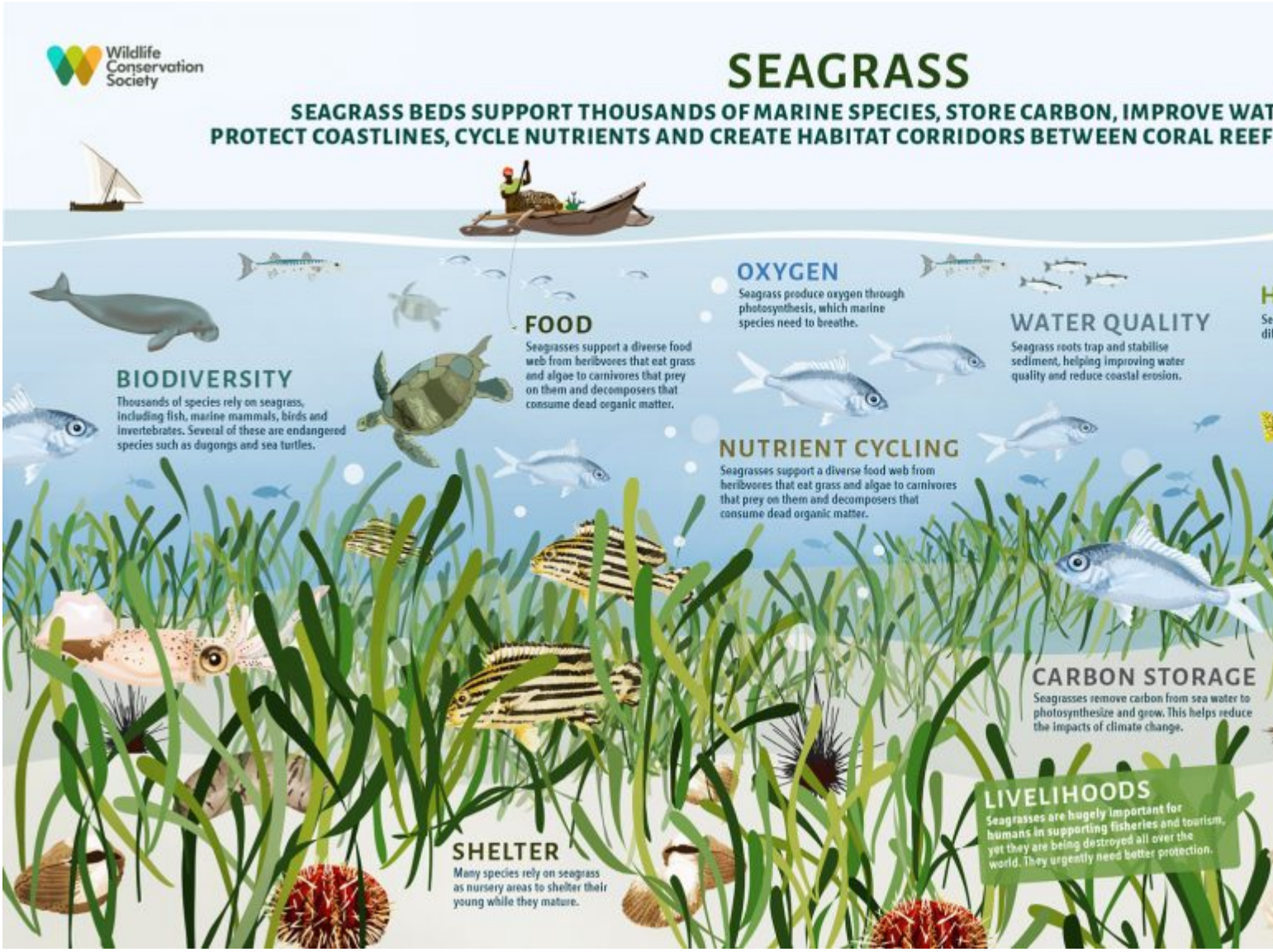
(ii) Slow Breeding Rate: Dugongs are long-living animals, that have a low reproductive rate, long generation time, and high investment in each offspring. The female dugongs do not bear their first calf until they are at least 10 and up to 17 years old. A dugong population is unlikely to increase more than 5% per year. They take a long time to recover due to the slow breeding rate.

(iii) Gill-net fishing: Dugongs are also known to suffer due to accidental entanglement and drowning in gill-nets. Fishing activities around the Indian, Andaman, Nicobar, and Sri Lankan coasts include gill netting and dynamite fishing.

(iv) Natural Factors: Loss of seagrass due to extreme weather events such as cyclones and high energy tidal storms also result in decline in population of Dugong

Seagrass:

- Seagrasses are **flowering plants** which are found in **sea beds and ocean floors**.
- The major seagrass beds exist along coastline of **Gulf of Mannar and Palk Bay regions** on the east coast, Gulf of **Kachchh region** on the west coast, the lagoons of islands in **Lakshadweep** in the Arabian Sea and **Andaman and Nicobar Islands** in the Bay of Bengal.
- Seagrass ecosystems are recognized globally for their ability to **sequester carbon, nurture fish communities and support marine mammals such as sea cows or dugongs.**
- They play an important role in carbon storage, accounting for 10% of the annual carbon sink capacity of the oceans
- Twenty-nine percent (29%) of the world’s seagrass habitat has already been lost largely through human activities and remaining seagrass is disappearing at a rate of 110 km^2 per year
- It can eat up to 40 kg of seagrass every day, making the plant crucial to the survival of the animal.



Some of the threats to seagrass include:

(i) Direct destruction of seagrass habitats, associated with unsustainable urban and industrial coastal development, as well as some fishing methods (trawling, using explosives and chemicals) causing direct physical damage to seagrass meadows.

(ii) Pollution in coastal waters from inadequate treatment of domestic sewage, untreated industrial liquid and solid waste disposals, run-off caused by deforestation for plantation or property and industrial development leads to loss of seagrasses.

(**iii) Natural disasters such as cyclones, storm surges and tsunamis** add to human impacts on seagrass habitats through increased turbidity owing to sediment entering the water column, and runoff from the land as surge water recedes. In addition, seagrass plants may be ripped from their holdings due to wave action.

(iv) Climate change exacerbates the impacts of human activities on seagrasses.

Significance of Dugong Conservation:

- Conserving dugongs will help to protect and **improve seagrass beds and sequestering more atmospheric carbon**.
- Seagrass beds are also the breeding and feeding grounds for many commercially valuable fishes and marine fauna.

- Hence, thousands of **fisher families directly depend on dugong habitats for their income**.

News Highlights:

- The Tamil Nadu government had announced September 3, 2021 that a dugong conservation reserve would be established **in the Gulf of Mannar, Palk Bay between India and Sri Lanka,** for the conservation of the animals.
- Tamil Nadu has now notified the **India's first 'Dugong Conservation Reserve**' in Palk Bay covering the coastal waters of **Thanjavur and Pudukottai districts** with an area of 448 square kilometers
- In this part of the biosphere reserve, the dugongs live within 10 metre depth not far from the shore.
- Palk Bay is a semi-enclosed shallow water body with a water depth maximum of 13 meters.
- Located between India and Sri Lanka along the Tamil Nadu coast, the dugong is a flagship species in the region
- Tamil Nadu is blessed to have rich marine biodiversity and is home to several rare and endangered fishes and turtle species.
- With a long coastline of 1076 km and 14 coastal districts TN is well poised to lead in marine species conservation.
- Notification of the reserve will not cause any new restrictions or regulations to the communities, rather it will focus on their participation and cooperation for the conservation efforts.
- Gulf of Mannar and Palk Bay are habitats for a wide range of marine fauna, including rare fishes, sea turtles, seahorses, and sea cucumbers.
- The region is presently facing threats of climate change apart from destructive fishing practices and industrial pollution.

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