

4. Underwater Noise Emissions (UNE)

Why in News?

- Recently, “Measuring Underwater Noise Levels Radiated by Ships in Indian Waters”, the rising Underwater Noise Emissions (UNE) from ships in the Indian waters are posing a threat to the Marine Ecosystem.

Highlights

- The sound pressure levels of UNE in the Indian waters are 102-115 decibels, relative to one micro Pascal (dB re 1 μ Pa).
- Scientists have agreed to use 1 μ Pa as the reference pressure for underwater sound.
- The East Coast level is slightly higher than that of the West. There is an increase by a significant value of about 20 dB re 1 μ Pa.
- The measurement of the ambient noise levels was carried out by deploying a hydrophone autonomous system around 30 nautical miles from the Goa coastline.
- Continuous shipping movement is identified to be a major contributor to the increase in the global ocean noise level.
- UNE is posing a threat to the life of mammals like Bottlenose Dolphin, Manatees, Pilot Whale, Seal, and Sperm Whale.
- The main form of energy for multiple behavioural activities of marine mammals, which include mating, communal interaction, feeding, cluster cohesion and foraging, is based on sound.
- The frequencies of ships’ underwater self-noise and machinery vibration levels are overlapping the marine species’ communication frequencies in the low-frequency range of less than 500 Hz.
- This is called masking, which may lead to a change in the migration route of the marine species to the shallow regions and also making it difficult for them to go back to the deeper water.
- However, the sound that radiates from ships on a long-term basis affects them and results in internal injuries, loss of hearing ability, change in behavioural responses, masking, and stress.