



# Freshwater Sponges: Nature's Pollution Sensors

Published On: 18-12-2025



**Background:** The Sundarban Delta faces immense pressure from industrial runoff and heavy metal pollution. Researchers at the Bose Institute discovered that native freshwater sponges (*Spongillidae*) serve as excellent Bioindicators.?

**Basics:**

**Kamaraj IAS Academy**

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040

Phone: **044 4353 9988 / 98403 94477** / Whatsapp : **09710729833**

- Bioindicators: Living organisms that respond to environmental changes. Sponges are "filter feeders"; they pump large volumes of water to get food, effectively "trapping" toxins like Arsenic, Lead, and Chromium in their tissues.
- Sundarban Ecology: Known for mangroves, the delta also has unique freshwater pockets where these sponges thrive.

### **Significance for UPSC:**

- Bioremediation: If these sponges can sequester toxins, they could be used for "Bio-remediation" projects in the Ganga-Brahmaputra system.
- Prelims Fact: Note that sponges are animals (Phylum Porifera), not plants.