



# Industrial Iron Pollution Disrupts Ocean Nutrient Cycles

**Source:** [TH](#)

A study finds that **industrial iron pollution depletes ocean nutrients** and disrupts marine ecosystems, posing major ecological risks.

- **Human-released iron** boosts **spring [phytoplankton](#) blooms** and accelerates nutrient loss, worsening ocean nutrient depletion amid climate change.
  - These threaten the entire marine food chain, from [zooplankton](#) to whales, especially affecting species unable to migrate or adapt.
  - **Phytoplankton are microscopic algae with chlorophyll** that need sunlight to grow and form the base of the marine food chain, but **excess nutrients can trigger toxic [harmful algal blooms \(HABs\)](#)** affecting marine life and humans.
- **India's Iron and Steel Sector Emissions:** India's iron and steel industry contributes **5% to national GHG emissions**.
  - The iron and steel industry causes significant pollution due to the use of coal and iron ore. Furnace operations release **sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), [particulate matter \(PM2.5 and PM10\)](#)**, and polycyclic aromatic hydrocarbons (PAHs).
  - Additionally, it generates wastewater, hazardous waste, and solid waste, leading to air, water, and soil pollution.

**Read more:** [India's Steel Sector](#)

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