



Oil Spill in Mauritius

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Why in News

A Japanese bulk-carrier ship MV Wakashio which was carrying fuel oil has split into two parts near **Blue Bay Marine Park** in **south-east Mauritius**.

The ship was already leaking and has caused an oil spill of over 1000 tonnes in the **Indian Ocean**.

Key Points

- The vessel has broken near **Pointe d'esny** in Mauritius and the area has many environmentally sensitive zones.

- **Effects:** The oil spill threatens the ecology of the **coastline of Mauritius** and the **marine life in the Indian Ocean**.
 - It endangers the already endangered **coral reefs, seagrasses in the shallow waters, mangroves, the fishes and other aquatic fauna**.
 - Some key wildlife at risk include: Giant tortoises, endangered green turtle, and the critically endangered **Pink Pigeon**.



- The **pink pigeon (*Nesoenas mayeri*)** is a species of pigeon, endemic to the Mascarene island of Mauritius.
- It has been listed as ‘**endangered**’ in the **International Union for Conservation of Nature (IUCN)** Red List of Threatened Species.

- **Liability:** Under the **International Convention on Civil Liability for Bunker Oil Pollution, 2001**, the owners of vessels are responsible for damage caused by oil leaks.
 - This convention, also known as **BUNKER convention**, came into force in **2008** and is administered by the **International Maritime Organization (IMO)**.
 - The Convention was adopted to ensure that **adequate, prompt, and effective compensation** is available to persons who suffer **damage caused by spills of oil**, when carried as fuel in ships' bunkers.
- **Blue Bay Marine Park:** It is designated as a **Wetland of International Importance** by **Ramsar Convention**.
The presence of **coral reefs, mangroves, seagrass meadows**, and **macroalgae** make it an ecologically sensitive zone.

Oil Spill

- **Definition:** An oil spill refers to any **uncontrolled release** of crude oil, gasoline, fuels, or other oil by-products into the environment. Oil spills can pollute land, air, or water, though it is mostly used for oceanic oil spills.
- **Cause:** They have become a major environmental problem, chiefly as a result of **intensified petroleum exploration and production** on continental shelves and the transport of large amounts of oils in vessels.
- **Environmental Impacts**
 - Oil on ocean surfaces is harmful to many forms of aquatic life because it **prevents sufficient amounts of sunlight** from penetrating the surface, and it also reduces the **level of dissolved oxygen**.
 - Crude oil ruins the insulating and waterproofing properties of feathers and fur of birds, and thus oil-coated birds and marine mammals may die from **hypothermia** (decrease in body temperature to below-normal levels).
 - Moreover, **ingested** oil can be toxic to affected animals, and damage their **habitat and reproductive rate**.
 - **Saltwater marshes** and **mangroves** frequently suffer from oil spills.
 - Experts say that despite best efforts, generally **less than 10% of oil spilled** in incidents like these is successfully **cleaned up**.
- **Economic Impacts:**
 - If beaches and populated shorelines are fouled, **tourism** and **commerce** may be severely affected.
 - The **power plants and other utilities** that depend on drawing or discharging sea water are severely affected by oil spills.
 - Major oil spills are frequently followed by the **immediate suspension of commercial fishing**.

- **Cleanup of Oil Spill:**
 - **Containment Booms:** Floating barriers, called booms are used to restrict the spread of oil and to allow for its recovery, removal, or dispersal.
 - **Skimmers:** They are devices used for physically separating spilled oil from the water's surface.
 - **Sorbents:** Various sorbents (e.g., straw, volcanic ash, and shavings of polyester-derived plastic) that absorb the oil from the water are used.
 - **Dispersing agents:** These are chemicals that contain surfactants, or compounds that act to break liquid substances such as oil into small droplets. They accelerate its natural dispersion into the sea.
 - **Biological agents:** Nutrients, enzymes, or microorganisms such as *Alcanivorax* bacteria or *Methylocella silvestris* that increase the rate at which natural biodegradation of oil occurs are added.
- **Other Incidents of Oil Spills:**
 - Recently, **Russia** declared a state of emergency in its **Krasnoyarsk Region** after a **power plant fuel leaked** causing 20,000 tonnes of diesel oil to escape into the **Ambarnaya River**.
 - In 2010, the **Deep Water Horizon incident** off the **Gulf of Mexico** saw nearly 400,000 tonnes of oil spill, resulting in the death of thousands of species ranging from plankton to dolphins
 - In 1978, a large crude oil carrier ran aground off the coast of **Brittany, France**, which leaked nearly 70 million gallons of oil into the sea, killing millions of invertebrates and an estimated 20,000 birds

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