What Are the Impacts of Polluted Marine Waters?

- Sources of Pollution:
  - Nutrients
  - Pathogens
  - Chemicals
  - Trash

- Contamination of waters from chemicals, eutrophication, pathogens, and trash comes from various sources and can have a significant impact upon the health of both human and marine populations.

- Pollutants enter the environment in a number of ways. They can affect habitats, food webs, and species diversity and may lead to changes in overall ecosystem structure and function. Some persist and accumulate, causing long-term effects.

- For example, agricultural fertilizers containing nitrogen and phosphorus can seep into groundwater or be washed away as runoff, resulting in the spread of dead zones in coastal waters.

- What Are the Impacts of Polluted Marine Waters?
  - Municipal Sewage
  - Agricultural Fertilizers
  - Livestock and Animal Waste
  - Stormwater Drainage
  - Aquaculture
  - Oil
  - Toxic Spills
  - Persistent Organic Pollutants (POPS)

- Global Use of Commercial Fertilizers Has Been Increasing in Recent Decades

- Commercial fertilizers are responsible for improved agricultural yields necessary to feed growing populations.

- Estimated Decomposition Rates of Marine Debris:
  - Plastic Grocery Bags: 1-20 Years
  - Plastic Bottles: 450 Years
  - Aluminum Cans: 200 Years
  - Wool Socks: 1-5 Years
  - Paper Towels: 2-4 Weeks
  - Fishing Line: 600 Years

- Pathogen Pollution Affects Native Populations and Ecosystems

- Poor sanitation and inadequate sewage treatment can introduce bacteria, viruses and parasites into water systems and coastal waters, resulting in disease and infection.

- 90% of the World's Population has No Access to Improved Sanitation Facilities

- Estimated Decomposition Rates of Marine Debris

- Sources on Land
  - Municipal Sewage
  - Sewage from Ships
  - Livestock and Animal Waste

- Sources on the Ocean
  - Marine Vessels

- ≤21%

- 130,034,681 km²

- 48,890,482 km²

- 38% of Global Land Used for Agriculture

- Commercial fertilizers are responsible for improved agricultural yields necessary to feed growing populations.

- Global land cultivated for agricultural purposes:
  - 2002: 130,034,681 km²
  - 2009: 145,825,063 km²

- Sources of Pollution:
  - Nutrients
  - Pathogens
  - Chemicals
  - Trash

- Pathogens

- Estimated Decomposition Rates of Marine Debris:
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- FAO. 2009.


- World Bank