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Understanding the Threats to Ocean Ecosystems and Biodiversity

Our planet's oceans cover over 70% of Earth's surface and are home to a remarkable variety of life, from the tiniest plankton to the mightiest whales. These underwater worlds are not just awe-inspiring but are also essential for our survival. However, the health of our oceans is under threat from various human activities. In this reading passage, we will delve into some of the most significant threats to ocean ecosystems and biodiversity.

- **Overfishing:** Overfishing occurs when fish are caught faster than they can reproduce, leading to a decline in fish populations. It disrupts the balance of marine food webs, threatens the survival of species, and affects the livelihoods of millions of people who depend on fishing for their income and food.
- **Pollution:** Pollution, both from land-based and marine sources, introduces harmful substances into the oceans. Plastics, oil spills, and toxic chemicals can harm marine life, damage coral reefs, and create dead zones where oxygen levels are too low for most organisms to survive.
- **Climate Change:** Climate change is altering the chemistry and temperature of the oceans. Rising sea temperatures can harm coral reefs and cause shifts in the distribution of marine species. Additionally, the absorption of excess carbon dioxide by the oceans is leading to ocean acidification, which affects organisms with calcium carbonate shells or skeletons.
- **Habitat Destruction:** Coastal development, dredging, and destructive fishing practices can damage or destroy critical habitats like mangroves, seagrass beds, and coral reefs. These habitats provide shelter, breeding grounds, and food for countless marine species.

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- **Invasive Species:** Invasive species are non-native organisms that, when introduced to new ecosystems, can outcompete native species and disrupt the balance of the ecosystem. Ballast water discharge from ships is a common way invasive species spread to new areas.
- **Illegal, Unreported, and Unregulated (IUU) Fishing:** IUU fishing undermines efforts to sustainably manage fish stocks. It often involves illegal activities like fishing in protected areas or exceeding catch limits, leading to further depletion of fish populations.
- **Resource Extraction:** Extracting resources from the ocean, such as oil, gas, minerals, and sand, can have detrimental effects on marine ecosystems. Oil spills from offshore drilling can have catastrophic consequences for marine life and coastal communities.
- **Litter and Plastic:** The ocean is becoming a dumping ground for plastic waste. This not only harms marine animals that ingest or become entangled in plastic debris but also affects the overall health of ocean ecosystems.
- **Noise Pollution:** Human activities like shipping, industrial operations, and naval exercises generate underwater noise pollution. This can disrupt communication and navigation for marine animals like whales and dolphins, leading to stranding events and stress-related health issues.
- **Loss of Biodiversity:** The cumulative impact of these threats is leading to a loss of marine biodiversity. This loss is not only a tragedy in itself but also reduces the resilience of ocean ecosystems to future challenges.

