NEXT IAS

DAILY EDITORIAL ANALYSIS

TOPIC

DECLINE IN WILDLIFE POPULATIONS

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In News

- The **World Wide Fund for Nature (WWF)'s Living Planet Report 2024** reveals a **drastic 73% decrease** in the average size of monitored wildlife populations over the past 50 years, from **1970 to 2020.**

Key Findings

- **Wildlife Population Decline:** An average 73% decline in monitored wildlife populations between 1970 and 2020, with freshwater species declining the most at 85%, followed by terrestrial (69%) and marine (56%).
- **Main Threats:** Habitat loss, largely due to food systems, followed by overexploitation, invasive species, disease, and pollution (particularly impacting Asia and the Pacific).
- **Tipping Points and Ecosystem Risks:** Wildlife decline signals risks of ecosystem tipping points, with critical thresholds potentially leading to irreversible damage—e.g., Amazon dieback and coral reef loss affecting global food security and livelihoods
- **India's Wildlife Status:** India's vulture populations are critically endangered, with significant declines for three species between 1992 and 2002.
  - Conservation efforts have helped some species recover, including tigers (3,682 in 2022) and snow leopards (718 in recent assessments).
- **Wetland Loss in Chennai:**Chennai's wetlands have shrunk by 85% due to urban expansion, exacerbating flood and drought vulnerabilities.
  - Initiatives like the Tamil Nadu Wetland Mission are focused on restoring wetlands to improve resilience

Impacts

- **Ecosystem Imbalance**: Wildlife plays a critical role in maintaining ecological balance. Predator-prey relationships, pollination, and nutrient cycles are disrupted when species decline, leading to ecosystem instability and collapse.
- **Loss of Biodiversity**: Declining wildlife populations reduce genetic diversity, making ecosystems less resilient to environmental changes, diseases, and natural disasters. This loss weakens ecosystem health and adaptability.
- **Threats to Food Security**: Wildlife supports food systems through pollination, pest control, and soil health. Declines in species like bees and other pollinators directly affect crop yields and global food supply.
- **Impacts on Human Health**: Healthy ecosystems regulate diseases by controlling pest populations and offering natural barriers. With declining biodiversity, the risk of zoonotic diseases (like COVID-19) increases, impacting human health.
- **Economic Consequences**: Many industries, including agriculture, fishing, and tourism, rely on healthy ecosystems. Wildlife declines can harm these sectors, leading to job losses and economic instability, particularly in communities that depend on natural resources.
- **Cultural and Social Impact:** Wildlife holds cultural, spiritual, and recreational value for communities worldwide. The loss of iconic species can diminish cultural identities and reduce opportunities for nature-based recreation and tourism.

Challenges Related to Conservation of Biodiversity

- Despite international commitments (Global Biodiversity Framework, Paris Agreement, UN SDGs), current national actions are inadequate for 2030 targets, risking dangerous tipping points.
- **Habitat Loss and Fragmentation:** Expanding agriculture, urbanization, and infrastructure development lead to the destruction and fragmentation of habitats, disrupting ecosystems and endangering species.
- **Climate Change:** Rising temperatures, altered precipitation patterns, and extreme weather events impact ecosystems, pushing species out of their natural habitats and altering food and water availability.
  - Wildfires are lasting longer and becoming more intense, with extreme fire events happening more often—even reaching as far as the **Arctic Circle.**
- **Overexploitation of Resources:** Unsustainable hunting, fishing, logging, and harvesting lead to declines in species populations and degradation of ecosystems, threatening biodiversity.

- **Pollution:** Industrial, agricultural, and plastic pollution harms wildlife and natural habitats. Pollutants like pesticides and heavy metals can disrupt reproductive and immune systems in species.
- **Invasive Species:** Non-native species introduced into ecosystems can outcompete, prey on, or spread disease to native species, often leading to declines or extinctions of indigenous populations.
- **Lack of Funding and Resources:** Conservation efforts often suffer from inadequate funding, limiting the ability to protect habitats, monitor species, and implement sustainable practices.
- **Weak Policy and Enforcement:** Insufficient or poorly enforced laws on habitat protection, hunting, and resource extraction hinder effective conservation efforts and allow illegal activities to thrive.
- **Human-Wildlife Conflict:** Expanding human populations and encroachment into natural habitats increase the likelihood of conflict with wildlife, which can lead to harm for both people and animals.
- **Loss of Genetic Diversity:** Reduced genetic diversity makes species more vulnerable to diseases, reduces adaptability to changing environments, and increases the risk of extinction.
- **Awareness and Education Gaps:** A lack of public awareness and understanding about biodiversity's importance can limit support for conservation efforts and sustainable practices.

Conclusion and Way forward

- **Expand protected areas**, restore damaged ecosystems, and engage Indigenous communities to enhance conservation efforts.
- **Promote sustainable farming**, reduce food waste, and encourage plant-based diets to reduce the impact of food production on biodiversity.
- **Shift to renewable energy sources,** reduce fossil fuel use, and ensure minimal harm to ecosystems, helping to limit climate change effects.
- **Redirect investments from environmentally** harmful sectors to nature-friendly, sustainable activities, securing long-term environmental benefits.
- **WWF-India stresses** collective action across sectors to align climate, conservation, and sustainable development policies, aiming for a resilient, thriving future.

Source:DTE

Mains Practice Question

[Q] How does the global decline in wildlife populations, including within India, threaten ecological balance and biodiversity, and what strategies should be considered for conservation efforts in different regions?

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