

Biodiversity & Conservation

I. Biodiversity & Conservation in India

Amaravati's Green Makeover and Biodiversity Drive:

The Amaravati Development Corporation (ADC) is embarking on a significant biodiversity drive to transform Amaravati into a richly biodiverse capital city. This involves extensive greenery development across a 320-kilometer road network, government buildings, and construction complexes. Plans include establishing greenery and parks in 18 Land Pooling Scheme (LPS) zones and creating 100-150 meter buffer zones along natural streams like Kondaveeti Vagu and Palavagu. A 22-kilometer stretch along the Krishna river basin will be developed with "blue-green" concepts, following National Green Tribunal guidelines. Horticulture and biodiversity experts, including those from Bengaluru International Airport's greenery development, are being consulted, and smart irrigation systems are being planned. This initiative emphasizes making Amaravati a unique "green city" globally.

Regulating Earth Extraction for Infrastructure - Impact

on Ecosystems: A key environmental and biodiversity concern highlighted on July 17, 2025, is the regulation of "ordinary earth" extraction for linear projects like highways and railways. While vital for infrastructure, unregulated and excessive extraction can pollute groundwater and strip fertile topsoil crucial for agriculture. The environment ministry issued a new regulatory framework in March 2025, following Supreme Court observations that struck down earlier notifications. The new framework allows extraction from "barren land or land without tree cover," but environmentalists warn this could undermine open natural ecosystems and habitats for endangered wildlife species. This ongoing legal and policy battle underscores the tension between development and biodiversity preservation.

Tiger Conservation Success & Challenges (Project Tiger 2025 Update):

- **Increased Tiger Population:** India continues its strong tiger conservation efforts under "Project Tiger," launched in 1973. As of March 2025, there are **58 protected areas designated as tiger reserves**, covering approximately 82,836.44 square kilometers. The wild tiger population in India, as of 2023, stands at around **3,682 individuals**, accounting for nearly 75% of the global wild tiger population. This marks a significant increase from earlier figures.
- **Challenges:** Despite the success, ongoing challenges remain, including human-wildlife conflict and the need for continuous habitat protection. The "Tracing a tiger from its kill" and "Tiger deaths reveal conservation challenges" articles from July 17, 2025 (Green Humour and Mongabay-India), imply that monitoring and addressing threats to tiger populations remain critical.

Elephant Conservation (Project Elephant 2025 Update):

- **The 21st Steering Committee Meeting of Project Elephant** was held on June 26, 2025, in Dehradun, chaired by Union Minister Shri Bhupender Yadav. The meeting emphasized involving local communities as active partners in wildlife conservation, particularly for managing human-wildlife conflict.
- **Key Initiatives:** Updates included preparation of Regional Action Plans on Human-Elephant Conflict in Southern and North-Eastern India, surveys covering 3,452.4 km of sensitive railway stretches (identifying 77 high-risk areas for mitigation), and progress in DNA profiling. Phase-I of synchronized elephant population estimation in North-Eastern States was completed, with over 16,500 dung samples collected.

➤ **Upcoming Plans:** The Model Elephant Conservation Plan (ECP) for the Nilgiri Elephant Reserve is expected to be finalized by December 2025. A three-year elephant tracking study will be initiated in Bandhavgarh Tiger Reserve, and Management Effectiveness Evaluations (MEE) will be conducted in Elephant Reserves.

➤ **Cultural Connection:** India-made life-sized elephant sculptures from invasive lantana grass are currently on a "Great Elephant Migration" journey across the U.S., raising awareness and funds for coexistence.



Marine & Coastal Conservation:

➤ **Indian Coast Guard's Efforts:** On World Environment Day 2025 (June 4), the Indian Coast Guard (ICG) reaffirmed its leadership in marine conservation. In the past year, ICG conducted over 58 major coastal clean-up operations, removing more than 194 tonnes of plastic waste. Operation Olivia in 2025 protected over 6.98 lakh (698,000) olive ridley turtles nesting along Odisha's coast. Anti-poaching efforts in the Andaman & Nicobar Islands have also curbed illegal trade of endangered marine species like sea cucumbers and corals.

➤ **Mangrove Conservation:** A workshop focusing on mangrove protection strategies was organized by Mukti at the Sundarban Mela 2025 on January 6, with 160 villagers participating, emphasizing community-driven conservation. Authorities are also taking action against mangrove encroachment in Borivali, India. Globally, the Mangrove Action Project continues its Children's Mangrove Art Contest 2025, and there's a push for "Mangrove Friendly Development" challenges.

Himalayan Biodiversity Conservation:

➤ The Himalayan region, a biodiversity hotspot, continues to face threats, primarily from climate

change and invasive species. Forthcoming publications in October 2025, such as "Biodiversity of the Himalaya, Volume 1," will assess these threats and document approaches for conservation and sustainable management, including traditional medicinal uses and biotechnological interventions for endangered plants.

➤ The G.B. Pant National Institute of Himalayan Environment organized events in May 2025 for International Day for Biological Diversity 2025 with the theme 'Harmony with Nature and Sustainable Development', and workshops on Springshed Management and Climate.

Newly Discovered Species in India (June 2025 Update): Indian scientists discovered over 10 new species across the country in June 2025, including:

- A new Gecko species (*Davidogeo coonoor*) in Tamil Nadu (Western Ghats).
- Two new earthworm species (*Kanchuria tripuraensis* and *Kanchuria priyasankari*) in Tripura.
- A new flowering plant near Jaipur's Aravalli Hills.
- New jumping spiders (*Spartaeus karigiri*) in Karnataka and Tamil Nadu.
- A new skink species from Seshachalam Biosphere Reserve, Andhra Pradesh.
- Two new firefly species in Sundarbans and Kolkata.
- A parasitic wasp (*Losgna Occidentalis*) in Chandigarh.
- Two new millipedes in Maharashtra and Kerala (Western Ghats).
- A new frog species (*Amolops shillong*) in Shillong.
- A new flatworm (*Dugesia punensis*) in Pune. These discoveries underscore India's rich biodiversity and the ongoing need for habitat conservation.

Endangered Indian River Species: Rohan Chakravarty's "Green Humour" on July 17, 2025, highlights the plight of endangered Indian river species, emphasizing the importance of freshwater ecosystem conservation.



Impact of Climate Change on Indian Biodiversity:

Climate change is intensifying stress on India's ecosystems, altering rainfall patterns, temperatures, and causing extreme weather events. Rising temperatures are shifting species ranges, with the Himalayan ecosystem being particularly vulnerable. Globally, over one million species face extinction, and India has lost 90% of the area under its biodiversity hotspots. At least 97 mammal, 94 bird, and 482 plant species in India are threatened according to IUCN. Biodiversity loss also increases the risk of zoonotic diseases.

Forest Loss in India: Global Forest Watch (GFW) data shows India lost **18,200 hectares of primary forest in 2024**, an increase from 2023. Between 2002 and 2024, India lost 348,000 hectares of humid primary forest. Northeastern states show the highest loss due to shifting cultivation, agricultural expansion, and logging.

II. Global Biodiversity & Conservation Themes

International Conference on Marine Biodiversity and Conservation (ICMBC-25): Scheduled for October 17-18, 2025, in Kuwait City, this conference will bring together scientists and professionals to discuss solutions, achievements, and future strategies in marine biodiversity and conservation.

Children's Mangrove Art Contest 2025: The Mangrove Action Project invites children globally to participate in its 25th annual contest, aiming to cultivate appreciation for mangrove and coastal ecosystems.

MCQs

1. The Amaravati Development Corporation (ADC) plans to establish greenery and parks in how many Land Pooling Scheme (LPS) zones?

- a) 10
- b) 12

- c) 18
- d) 22

Correct Answer: c) 18

Explanation: The news states: "Plans include establishing greenery and parks in 18 Land Pooling Scheme (LPS) zones..."

2. Environmentalists warn that the new regulatory framework for "ordinary earth" extraction, allowing it from "barren land or land without tree cover," could undermine what?

- a) Urban development projects
- b) Open natural ecosystems and habitats for endangered wildlife
- c) Road construction timelines
- d) Groundwater recharging efforts only

Correct Answer: b) Open natural ecosystems and habitats for endangered wildlife

Explanation: The news states: "The new framework allows extraction from "barren land or land without tree cover," but environmentalists warn this could undermine open natural ecosystems and habitats for endangered wildlife species."

3. As of March 2025, how many protected areas in India are designated as tiger reserves under "Project Tiger"?

- a) 45
- b) 50
- c) 58
- d) 65

Correct Answer: c) 58

Explanation: The news states: "As of March 2025, there are 58 protected areas designated as tiger reserves..."



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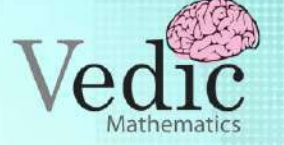
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4. As of 2023, approximately what percentage of the global wild tiger population resides in India?

- a) 50%
- b) 60%
- c) 70%
- d) 75%

Correct Answer: d) 75%

Explanation: The news states: "The wild tiger population in India, as of 2023, stands at around 3,682 individuals, accounting for nearly 75% of the global wild tiger population."

5. The 21st Steering Committee Meeting of Project Elephant, held on June 26, 2025, emphasized involving which group as active partners in wildlife conservation?

- a) Only government officials
- b) Corporate sponsors
- c) Local communities
- d) International NGOs

Correct Answer: c) Local communities

Explanation: The news states: "The meeting emphasized involving local communities as active partners in wildlife conservation, particularly for managing human-wildlife conflict."

6. Operation Olivia in 2025 protected which marine species nesting along Odisha's coast?

- a) Green sea turtles
- b) Leatherback turtles
- c) Olive ridley turtles
- d) Hawksbill turtles

Correct Answer: c) Olive ridley turtles

Explanation: The news states: "Operation Olivia in 2025 protected over 6.98 lakh (698,000) olive ridley turtles nesting along Odisha's coast."

7. A new Gecko species, Dravidogecko coonoor, was discovered in which Indian state?

- a) Kerala
- b) Karnataka
- c) Tamil Nadu
- d) Andhra Pradesh

Correct Answer: c) Tamil Nadu

Explanation: The news states: "A new Gecko species (Dravidogecko coonoor) in Tamil Nadu (Western Ghats)."

8. According to IUCN, approximately how many mammal species in India are threatened?

- a) 50
- b) 75
- c) 97
- d) 120

Correct Answer: c) 97

Explanation: The news states: "At least 97 mammal, 94 bird, and 482 plant species in India are threatened according to IUCN."

9. How many hectares of primary forest did India lose in 2024, according to Global Forest Watch (GFW)?

- a) 17,700 hectares
- b) 18,200 hectares
- c) 34,800 hectares
- d) 93,000 hectares

Correct Answer: b) 18,200 hectares

Explanation: The news states: "Global Forest Watch (GFW) data shows India lost 18,200 hectares of primary forest in 2024..."





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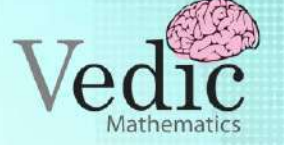
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10. In which city is the International Conference on Marine Biodiversity and Conservation (ICMBC-25) scheduled to take place in October 2025?

- a) Dubai
- b) Doha
- c) Kuwait City
- d) Riyadh

Correct Answer: c) Kuwait City

Explanation: The news states: "Scheduled for October 17-18, 2025, in Kuwait City, this conference will bring together scientists and professionals to discuss solutions..."

