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Worst Die-Off Common Murres

Context: A recent study has revealed that a marine heatwave known as "the Blob," which occurred between 2014 and 2016, led to the largest mass die-off of a single species in modern history. The event wiped out approximately 4 million common murres (*Uria aalge*), or about half of Alaska's murre population. Despite seven years passing, there is still no sign of recovery for the species.

About the key findings:

- The study, led by wildlife biologist Heather Renner, used decades of colony surveys to document the severe population decline.
- Published in *Science* on December 12, 2024, the research shows the Blob's devastating impact, making it one of the largest single-species wildlife mortality events recorded.
- Murre colonies in the Gulf of Alaska dropped by 50%, and in the eastern Bering Sea, the decline reached a catastrophic 75%.

About the common murres:

- The common murre, often likened to a flying penguin for its black-and-white plumage, is a seabird that once thrived along rocky shores.
- These birds are skilled divers and nest in large colonies, but their numbers have sharply dwindled in recent years, revealing their vulnerability to environmental disruptions.



The Blob and Its Effects:

- The Blob caused ocean temperatures to rise by 4°C (7°F) in the northeast Pacific, severely disrupting marine ecosystems. Phytoplankton levels, the base of the food chain, plummeted, which led to a collapse in forage fish

populations.

- This loss of food resulted in widespread starvation among murres, with thousands of dead birds washing ashore from Alaska to California. In 2015 and 2016 alone, 62,000 murres were documented as dead.

The Role of Climate Change:

- The study emphasizes the broader role of climate change, noting that warmer ocean temperatures are causing massive shifts in marine ecosystems.
- As ocean warming continues, the frequency and intensity of marine bird mortality events are increasing, posing serious risks to species like the common murre.
- The impact of climate change on marine life is becoming increasingly evident, with events like the Blob highlighting the urgent need for action to mitigate further harm.

Supreme Court's initiative for the conservation of sacred groves

Context: The Supreme Court has recently directed the Central Government to formulate a comprehensive policy for the conservation and management of sacred groves. This decision has underlined the importance of environmental sustainability and has taken an important step towards promoting environmental awareness in the society.

Importance of sacred groves:

- Sacred groves are forest areas that are given special importance religiously, culturally or traditionally. Their environmental importance is immense, because they:
 - » Preserve biodiversity.
 - » Prevent soil erosion and desertification.
 - » Balance the local climate.

Supreme Court's decision:

- A bench of Justices B.R. Gavai, S.V. Bhatti and Sandeep Mehta said in its decision that the Central Government should:
 - » **Conduct a national survey:** Identify sacred groves, determine their location, area, and boundaries.
 - » **Ensure flexible boundaries:** So that these forests can grow and expand naturally.

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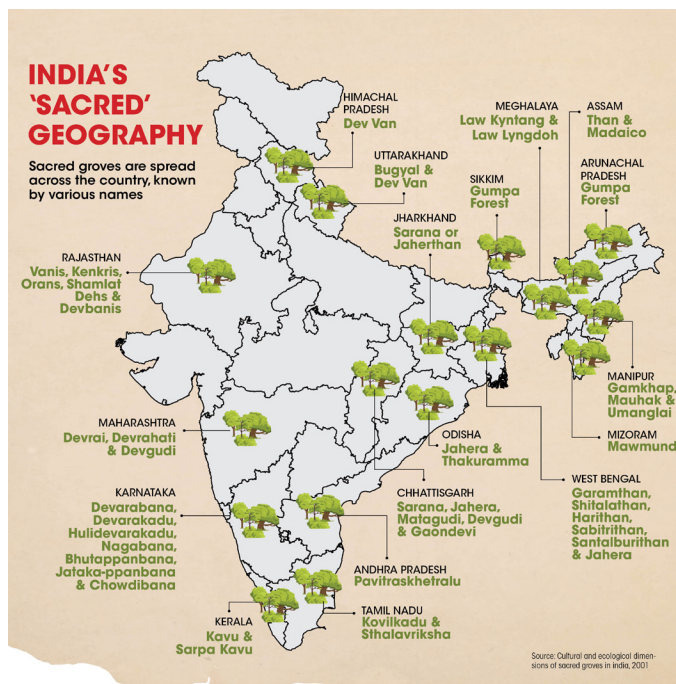


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- » **Provide strict protection:** Their size should not be reduced due to activities like agriculture, human settlements and deforestation.

Reference to Bhagavad Gita

- In this decision, the Supreme Court underlined the importance of nature and consciousness by referring to the 20th verse of the 13th chapter of the Bhagavad Gita. The verse states that nature is the source of all material things and consciousness makes us experience all happiness and sorrow.



education of girl child was ensured.

Way forward:

- **Policy support:** Central and state governments should provide financial assistance, technical guidance and policy support for models like Piplantri.
- **Public participation:** Local communities should be involved in the conservation of sacred groves.
- **Education and awareness:** Campaigns should be run to emphasize on environmental conservation and gender equality.
- **Sustainable development:** Such models should be implemented across the country to encourage the overall development of society and environment.

Conclusion:

This decision of the Supreme Court is not only a milestone in the direction of environmental conservation, but it is also an effort to sensitize the society towards nature and gender equality. Implementation of efforts like the Piplantri model at the national level is extremely important for the overall development of society and environment.

Panel on Paper Leak

Context: Recently, A seven-member panel, led by former ISRO chairman K. Radhakrishnan, was formed by the Ministry of Education following the NEET-UG paper leak, has proposed 101 recommendations to ensure that national-level entrance exams are conducted in a "transparent, smooth, and fair" manner.

Piplantri Model: An Inspiring Example

- The Supreme Court praised the Piplantri village in Rajasthan's Rajsamand district, where the tradition of planting 111 trees started on the birth of every daughter. The main benefits of this model are:
 - » **Environmental impact:** Planting of more than 40 lakh trees increased the water level by 800-900 feet and reduced the temperature by 3-4 degrees Celsius.
 - » **Economic improvement:** Trees like amla, aloe vera and bamboo created employment. Aloe vera processing and furniture manufacturing provided self-reliance to women.
 - » **Social change:** Female foeticide ended and

Key recommendation of the panel:

- The panel highlighted the need to limit the National Testing Agency's (NTA) scope, especially due to its expanding role in conducting various exams, including recruitment tests, beyond entrance exams.
- The panel recommended that the NTA focus on entrance exams until it can expand its capacity. It also pointed out the NTA's heavy reliance on outsourced service providers and suggested strengthening its leadership and staffing with domain-specific experts.
- To ensure fair testing, the panel proposed involving state and district-level officials, similar to election management. It recommended coordination committees consisting of NTA, National Informatics

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Centre (NIC), police, and intelligence agencies. These committees would plan strategies for secure and transparent exams, including sealing testing centres in the presence of authorities and using CCTV monitoring, akin to polling booths.

- The panel also suggested improving the testing process by implementing multi-session exams, including multi-stage testing for NEET-UG, and adopting a centre allocation policy to prevent suspicious allocations.
- It recommended mobile testing centres for remote areas and multiple sets of question papers for pen-and-paper exams, with encrypted delivery to test centres. Additionally, a "Digi-Exam" system was proposed, where candidates' biometrics are verified at testing centres for authentication
- Long-term suggestions included harmonizing and unifying tests across various undergraduate programs, adopting computer-adaptive testing, and collaborating with Kendriya Vidyalayas and Navodaya Vidyalayas to create digital infrastructure.
- The panel also recommended establishing a nationwide network of 400-500 testing centres within a year, providing about 2.5 lakh testing capacities per session. These measures aim to reduce the NTA's reliance on service providers and enhance the overall testing experience.



About NTA:

- The National Testing Agency (NTA) was established in 2018 as a society registered under the Indian Societies Registration Act, 1860.
- It was created with the goal of being a specialist, autonomous, and self-sustained testing organization responsible for conducting various entrance examinations for admissions and fellowships in higher educational institutions, such as JEE (Main), CMAT, UGC-NET, among others.
- The NTA is chaired by an eminent educationist, appointed by the Ministry of Education. The Director General is supported by nine verticals, each headed by academicians or experts in their respective fields, ensuring specialized leadership and oversight across various functions within the agency.

Project Cheetah: Reintroducing Cheetahs to India

Context: Madhya Pradesh is embarking on an ambitious initiative to reintroduce cheetahs into the Gandhi Sagar Wildlife Sanctuary, a sprawling 2,500 sq. km reserve characterized by a mix of grasslands, forests, and riverine habitats.

- As part of the project, 6-8 cheetahs will be released into a 64 sq. km predator-proof enclosure. However, to ensure their safety and survival, the sanctuary's existing leopard population of around 70 individuals will be relocated. This plan is part of a broader effort to restore the cheetah population in India, where the species was declared extinct in 1952.

About Project Cheetah:

- Phase 1 of Project Cheetah began in 2022 with the goal of restoring cheetah populations in India.
- The project involves translocating cheetahs from South Africa and Namibia to Kuno National Park in Madhya Pradesh.
- This initiative is being managed by the National Tiger Conservation Authority (NTCA) in collaboration with the Madhya Pradesh Forest Department and the Wildlife Institute of India (WII).
- Phase 2 of the project extends to the Gandhi Sagar Wildlife Sanctuary, further enhancing India's cheetah conservation efforts.

About Gandhi Sagar Wildlife Sanctuary:

- **Location:** The sanctuary, established in 1974, spans the districts of Mandsaur and Neemuch in western Madhya Pradesh, bordering Rajasthan. The Chambal River divides it into two sections, with the Gandhi Sagar Dam situated within the sanctuary.
- **Ecosystem:** The sanctuary features rocky terrain, shallow topsoil, and a savanna ecosystem with open grasslands interspersed by dry deciduous trees. Its riverine valleys are evergreen, making it suitable for a variety of wildlife.
- **Ideal Habitat for Cheetahs:** The sanctuary's ecosystem closely resembles that of Kenya's Maasai Mara, a renowned reserve that is home to large populations of cheetahs. This makes it an ideal habitat for their reintroduction.

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About African Cheetah:

- The African cheetah (*Acinonyx jubatus jubatus*) is found across sub-Saharan Africa, including countries like Kenya, Tanzania and South Africa.
- With a population of around 10,000 individuals, it is classified as Vulnerable by the IUCN due to threats such as habitat loss, poaching, and human-wildlife conflict.
- Larger than the Asiatic cheetah, it can grow up to 84 inches in body length and weigh 120-159 lbs, with a golden-brown coat covered in black spots.
- Renowned for its speed, it can reach 60-70 mph and preys on herbivores like gazelles and antelopes. Conservation efforts are underway to protect this iconic predator.

Power Packed News

Kiran Mazumdar awarded Jamsetji Tata Award

- Kiran Mazumdar-Shaw, Chairperson of Biocon Group and a leading personality in the biotechnology sector, was awarded the "Jamsetji Tata Award" 2024.
- The award was given by the Indian Society for Quality (ISQ) for strengthening the bioscience movement in India under her leadership.
- The achievement was recognised during the ISQ Annual Conference held in Bengaluru.
- The award was given by Janak Kumar Mehta, President of TQM International. Kiran Mazumdar-Shaw was appreciated for her dedication and contribution to the health care and biopharma sector in India through scientific innovations.
- The Jamsetji Tata Award was instituted in 2004 and is given to business leaders who have made a profound impact on society. The award encourages excellence in leadership, innovation, and quality.
- This honor of Kiran Mazumdar-Shaw is not only a recognition of her personal efforts but also an inspiration to take India's biotechnology sector to new heights. It will inspire young scientists and innovators.



Russia develops Cancer Vaccine

- Russia has developed a cancer vaccine based on mRNA technology, which will be available in early 2025. This vaccine will be given free of cost to cancer patients and is aimed at destroying cancer cells.
- The mRNA vaccine trains the body's immune system to identify and eliminate tumors. It uses components of the patient's tumor so that the immune system can attack cancer cells.
- Pre-clinical testing of this vaccine has shown signs of its effectiveness. The tests found that it is able to inhibit tumor growth and control metastasis.
- However, this vaccine will not work in cancer prevention. It costs around 3 lakh rubles per dose. This initiative promotes the use of mRNA technology in cancer treatment, which is a revolutionary step in modern medicine.



Ram Mohan Rao Amara becomes Managing Director of SBI

- Ram Mohan Rao Amara has been appointed as the Managing Director of State Bank of India (SBI). He will hold this post for three years. Earlier he was working as Deputy Managing Director in SBI.
- The SBI board is headed by a chairman, along with four managing directors. Ram Mohan Rao Amara has been appointed after CS Shetty became the chairman.

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- This appointment has been made on the recommendation of the Financial Services Institutions Bureau (FSIB). Amara has deep expertise in banking and financial services.
- His appointment will help accelerate SBI's growth and strategic initiatives. This decision reflects the importance of leadership and experience in the Indian banking sector.

R Ashwin retires from international cricket

- Veteran Indian off-spinner R Ashwin has announced his retirement from international cricket.
- He made this announcement after the draw of the third Test of the Border-Gavaskar Trophy.
- Ashwin took 537 wickets in 106 Test matches, which is the second highest number of wickets in Test cricket for India. He has also scored 6 centuries and 14 half-centuries in Tests.
- He has also performed brilliantly in ODIs and T20 cricket. He has 156 wickets in ODIs and 72 in T20s.
- However, Ashwin will continue to play in the IPL and domestic T20 leagues. He will represent Chennai Super Kings in 2025. His retirement marks the end of an era for Indian cricket.



Ravichandran Ashwin

Major international records

Most player-of-the-series awards in Test - 11 awards

Fastest to 350 wickets in Test - 66 matches

2nd most 5-wickets in an innings - 37 innings

4th most wickets taken bowled - 109 wickets

7th most wickets in Test cricket - 537 wickets

11th most wickets in a career - 765 wickets

"Encyclopedia of Forest" Tulsi Gowda passes away

- Tulsi Gowda, an icon of environmental conservation, passed away. She was known as the "Encyclopedia of Forest" and "Vriksha Devi".
- Tulsi Gowda planted more than 1 lakh trees in her life and helped in their conservation. She dedicated her efforts towards afforestation, preventing poaching and protecting wildlife.
- She was awarded the Padma Shri in 2021. Her exceptional knowledge was based on forests and ecology.
- Her contributions not only preserved the environment but also strengthened community and tiger conservation areas. Her demise is a great loss to the environmental conservation.



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