

7. Sangai Deer- Environment

Drowning in its home. The Sangai deer faces imminent extinction due to the thinning of its floating habitat (phumdis) in Keibul Lamjao National Park, exacerbated by the hydrological impact of the Ithai Barrage, pollution, and a critically small, genetically isolated population.

1. Context

Urgent Warning- Recent ecological assessments have issued a dire warning that the Sangai (Dancing Deer) is approaching an extinction-level event.

Primary Cause- This imminent threat is driven by the rapid collapse of floating meadows (phumdis) in Manipur, which form the species' only natural habitat.

Official Findings- The Wildlife Institute of India (WII) (2022–23) conservation plan reports a critically low wild population and severe habitat fragmentation, raising serious questions about wetland governance and the conflict between hydropower projects and ecology.

2. Species Profile- The Sangai

Attribute	Details
Common Name	Sangai / Dancing Deer
Scientific Name	<i>Rucervus eldii eldii</i>
IUCN Status	Endangered
Status	State Animal of Manipur
Habitat Specificity	The only wild population in the world is confined to the floating meadows of Keibul Lamjao National Park.
Unique Features	Brow Tine- Distinctive brow tine on the forehead of males. Dancing" Gait- Its delicate gait while balancing on floating vegetation creates an illusion of dancing.

3. Geographical & Ecological Context

Location- Situated in the Imphal Valley, south of Loktak Lake.

Keibul Lamjao National Park (KLNP)

- Recognized as the world's only floating national park.
- Designated as a Ramsar Convention site (Wetland of International Importance).

Core Ecological Unit- Phumdis

Definition- Floating mats composed of vegetation, soil, and organic matter at various stages of decomposition.

Critical Requirement- These mats must be ≥1 meter thick to support the weight of an adult Sangai (90–115 kg).

4. Population Status & Data Discrepancies

Historical Timeline

- 1951- The species was declared extinct, but was subsequently rediscovered.
- 1984 onwards- Showed signs of apparent recovery, followed by a decline.

Current Estimates (WII 2022–23)

- Wild Population- Approximately 64 individuals.
- Captive Population- ~200 individuals scattered across zoos in India.

Data Controversy- The 2016 Census reported 260 individuals, but this figure is now believed to be inflated or based on methodologically weak practices.

Habitat Squeeze- The viable habitat has shrunk to just ~10 sq km, leading to severe overcrowding and stress.

5. Key Threats to Survival

A. Habitat Collapse (Primary Driver)

Phumdi Thinning- The floating meadows are thinning and fragmenting due to altered hydrology and high pollution loads.

Direct Impact- In the 2023 census, carcasses of 2 Sangai and 4 Hog Deer were recovered, with drowning suspected as the cause due to the sinking vegetation.

B. Hydropower–Wetland Conflict

Ithai Barrage (1983)- A downstream multipurpose hydroelectric project has permanently altered the lake's hydrology.

Consequences

1. Causes monsoon backflow into the Loktak–Keibul system.
2. Leads to the erosion of phumdis.
3. Disrupts the nutrient cycles and delays the regeneration of floating mats.

C. Pollution & Urban Pressure

Sewage Inflow- Untreated sewage from surrounding towns flows directly into the lake.

Nutrient Imbalance- Excess nutrients disrupt the growth of endemic plant species that are essential for anchoring the phumdis.

D. Genetic & Demographic Risks

Inbreeding Depression- Caused by the extremely small effective population and confinement to a single location.

Consequences

- a. Reduced fertility rates.
- b. Higher susceptibility to diseases.
- c. Lower long-term genetic viability.

E. Institutional Gaps

Management Failure- Despite Ramsar status, there is a lack of effective wetland hydrological management.

Fragmentation- Responsibility is split between wildlife, water resources, and power departments, preventing a unified conservation approach.

6. Governance, Policy & Cultural Dimensions

Protected Area Paradox- There is a focus on "species protection" (guarding the deer) while neglecting "ecosystem processes" (maintaining the lake's hydrology).

Policy Gaps

- a. Lack of environmental flow norms for the Loktak basin.
- b. Absence of an integrated lake–river–wetland authority.

Climate Sensitivity- Phumdis are climate-sensitive; changing rainfall patterns amplify hydrological stress.

Cultural Significance - The Sangai is a cultural keystone species for Manipur, embedded in dance, art, and sports.

Risk- Biodiversity loss threatens cultural identity, and ignoring local livelihoods can breed resistance to conservation efforts.

7. Way Forward

Ecological Measures

Restore Phumdis- Maintain minimum thickness through controlled water levels and nutrient balance restoration.

Vegetation Programs- aggressive regeneration of native vegetation species.

Hydrological Governance

Enforce Environmental Flows- Regulate water release downstream of the hydropower project.

Seasonal Modulation- Mimic natural seasonal water-level fluctuations to aid phumdi regeneration.

Genetic Conservation

Metapopulation Strategy- Implement a scientific plan for carefully managed translocations.

Genetic Exchange- Facilitate exchange between captive and wild populations where viable to widen the gene pool.

Institutional Reform

Integrated Authority- Create a "Loktak–Keibul Integrated Wetland Authority" converging wildlife, water, and urban governance.

Community Stewardship- Involve local fishers in wetland management.

Monitoring- Conduct annual independent population audits using modern methods like camera traps and genetic sampling.

Source- <https://www.downtoearth.org.in/wildlife-biodiversity/drowning-in-its-home>

