

Kaziranga Bird Census: Tracking Grassland Birds Through Acoustic Monitoring

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Kaziranga Grassland Bird Census Latest News

- Recently, PM Modi, in his Mann ki Baat address, spotlighted the **first-ever grassland bird census conducted in Assam's Kaziranga National Park**.
- This unique initiative aimed to assess the presence, diversity, and habitat preferences of grassland bird species—many of which are endangered or declining in number.
- This article deals with the Kaziranga grassland bird census, its methodology, and the growing conservation concerns around grassland bird species in India.

Grassland Birds

- Grassland birds in India are a unique group of avian species adapted to live in open, grassy habitats.
- These birds play a critical ecological role as indicators of healthy ecosystems, reflecting the overall status of grassland habitats.

- Notable examples include the Bengal Florican, Finn's Weaver, Indian Courser, Great Indian Bustard, and Jerdon's Babbler.
- Many grassland bird species are threatened due to rapid habitat loss. Climate change has further intensified these threats.
- Conservation of grassland birds requires sustained protection of their habitats, scientific monitoring (like acoustic surveys), and strong policy support.
- Special attention is needed for species endemic to India's grasslands, as their extinction would be irreversible on a global scale.

Kaziranga's Grassland Bird Census: A Conservation Milestone

- Recently, a collaborative survey was conducted in Assam's Kaziranga National Park to record its grassland bird population.
- The initiative was led by forest officials, scientists, and conservationists, and was sparked by the research of Chiranjib Bora, a doctoral student studying the endangered **Black-breasted Parrotbill**.
 - Funded by the **INSPIRE fellowship** from the Department of Science & Technology, his project used **acoustic monitoring tools** to document bird species in Kaziranga, 70% of which is grassland.
- The survey aimed to monitor elusive and rapidly declining grassland bird species, many of which are hard to detect due to their small size and camouflaged appearance.
- It focused on 10 priority species that are either globally threatened or endemic to the Brahmaputra floodplains, such as the Bengal Florican, Swamp Francolin, and Finn's Weaver.
- In total, 43 species were recorded, including 1 Critically Endangered, 2 Endangered, and 6 Vulnerable species, as per the IUCN Red List.

Innovative Acoustic Monitoring in Kaziranga Bird Survey

- The Kaziranga grassland bird survey stood out for its use of passive acoustic monitoring.
- Traditional visual counting was ineffective for these small and shy birds, so acoustic recorders were strategically placed on tall trees near grasslands during their breeding season (March to May), a time when birds are most vocal.
- These devices captured bird songs over three consecutive days at 29 locations using six recorders.
- The recorded audio was then **analyzed using spectrograms**—graphical representations of sound—and a machine learning tool called Birdnet to accurately identify bird species based on their calls.
- This method enabled researchers to detect species that might have gone unnoticed using conventional techniques.

Grassland Birds as Ecosystem Health Indicators

- The survey's findings underscore the ecological significance of grassland birds, which serve as vital indicators of habitat health.
- Their presence confirms that the grasslands of Kaziranga are thriving.
- A key highlight was the discovery of a breeding colony of the **endangered Finn's Weaver**, a species endemic to the Brahmaputra floodplain.

- For the first time, researchers located over 85 nests of this rare bird atop trees in Kaziranga, shedding light on its nesting behavior and strengthening conservation efforts in the region.

Multiple Threats to Grassland Bird Habitats

- Kaziranga's grassland birds face serious threats due to both **human activities and natural processes**.
- Over the past 40 years, Assam has lost around 70% of its grasslands. Key drivers include overgrazing, conversion of grasslands into agricultural land, and ecological succession, where grasslands naturally transition into forests.
- This is particularly alarming for species endemic to the Northeast, as their extinction in this region would mean global extinction.
- **Climate change** adds another layer of threat, with some species like the Bengal Florican showing significant declines.
- Further research is needed to understand the full impact of these changes.

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