DIBRU SAIKHOWA NATIONAL PARK: ENVIRONMENT

Grassland invaders stifle Assam's island-like national park

Dibru-Saikhowa is a unique floodplain National Park and Biosphere Reserve in Assam, defined by the dynamic Brahmaputra River system and its rich grasslands. The core conservation issue is balancing the ecosystem's natural need for disruptive floods against increasing human pressures like encroachment and industrial activity.

Geographical Location

Region

The park is located in the state of Assam in North-East India.

Districts

It spans across the Tinsukia and Dibrugarh districts.

Riverine Setting

It is uniquely situated on a river island, flanked by the Brahmaputra and Lohit rivers in the north and the Dibru river in the south.

Geography and Ecosystem

The park is a prime example of a floodplain ecosystem. Its landscape is a dynamic mosaic of wetlands, sprawling alluvial grasslands, and patches of semi-evergreen and deciduous forests.

Official Status and Recognition

It was declared a National Park in 1999. Prior to this, it was a Wildlife Sanctuary, established in 1986. Due to its exceptional biodiversity, it was also designated as a Biosphere Reserve in 1997.

Size

The total area, including its core and buffer zones, is approximately 765 square kilometers.

Ecological Features and Biodiversity Significance

Grassland Ecosystem

DSNP is renowned for its extensive patches of alluvial grasslands, which are seasonally dynamic due to the annual monsoon floods. This environment supports a unique assemblage of species that are adapted to constant disturbances like floods, erosion, and silt deposition.

Forests and Wetlands

The park features a rich mix of semi-evergreen forests, moist deciduous forests, and bamboo groves. It is dotted with numerous wetlands and oxbow lakes, locally known as "beels", which are vital for aquatic life.

Riverscape Dynamics

The ever-changing course of the mighty Brahmaputra River constantly reshapes the park's landforms, creating a state of perpetual habitat flux and ecological change.

Flora (Plant Life)

The vegetation is dominated by tall grasses like *Saccharum*, *Phragmites*, and *Arundo*, along with diverse swamp and aquatic plants.

Fauna (Animal Life)

Mammals

DSNP is famous for its population of feral horses, a unique attraction. Other key mammals include the Bengal tiger, leopard, elephants, Asiatic water buffalo, and the endangered Gangetic River dolphin.

Birds

It is an avian paradise with over 300 recorded species. It is a critical habitat for critically endangered birds like the White-winged Wood Duck (the state bird of Assam) and the Bengal Florican.

Aquatic Life

The extensive network of rivers and beels supports a rich diversity of fish species (ichthyofauna).

The Core Issue

Grasslands in Flux

Natural Dynamic Nature

The annual floods are a double-edged sword; they deposit fresh, fertile silt essential for grassland health but also erode existing patches. This causes the total grassland cover to fluctuate, creating an unstable environment for species that require permanent grassland habitats.

Threat of Ecological Succession

In the absence of regular disturbances like floods or controlled fires, grasslands naturally transition into woodland or forest. This process, known as succession, shrinks the open habitats necessary for the survival of grassland-specialist species like the Bengal Florican.

Anthropogenic (Human-Induced) Impacts

Degradation

Human activities such as encroachment, livestock grazing, and fuelwood collection are accelerating the degradation of these vital grasslands.

Industrial Threats

The stability of the entire ecosystem is threatened by ongoing oil exploration and industrial activities in Assam's upper Brahmaputra valley.

Conservation Challenges and Human Context

Local Livelihoods and Conflicts

Local communities are heavily dependent on the park's resources for grazing, fishing, and collecting fuelwood and reeds. Conflicts arise from the dual pressures of displacement caused by floods and livelihood restrictions imposed by conservation laws.

Major Conservation Hurdles

Hydrological Alterations

Upstream dams and embankments disrupt the natural flood cycles that are crucial for grassland regeneration.

Encroachment

The conversion of grassland on the park's fringes into agricultural land is a persistent problem.

Invasive Species

The spread of alien species like Mimosa and water hyacinth is choking native vegetation in the wetlands.

Oil & Gas Exploration

There is a repeated conflict of interest between conservation imperatives and industrial activities in the region.

Climate Change

Erratic rainfall, unpredictable flood patterns, and increased river course shifts are amplifying the ecosystem's instability.

Legal Framework and Way Forward

Policy and Legal Protection

The park is protected under India's Wildlife Protection Act, 1972.Its Biosphere Reserve status provides an additional management framework focusing on the integration of conservation and

sustainable use. The Supreme Court and the National Green Tribunal (NGT) have intervened in legal cases to challenge and regulate oil drilling activities within DSNP.

Recommended Management Strategies

Adaptive Management

Implement scientific grassland management techniques, including controlled burning, flood simulation, and targeted removal of invasive species.

Community Participation

Form Eco-development committees to ensure local communities are involved in resource management and benefit from eco-tourism.

Hydrological Restoration

Work to maintain the natural flood cycles by reducing pressures from embankments and other structures.

Scientific Monitoring

Conduct long-term mapping of grassland cover and monitor the population dynamics of key species to inform management decisions.

Integrated Landscape Approach

Manage DSNP not as an isolated unit, but as a crucial part of a larger conservation strategy for the entire Brahmaputra floodplain.

Source: https://www.thehindu.com/sci-tech/energy-and-environment/grassland-invaders-stifle-assams-island-like-national-park/article69943121.ece