

## LIFE AND DEATH DURING KAZIRANGA'S MONSOON FLOODS

Kaziranga National Park in Assam, India, is known worldwide for its population of Greater one-horned rhinos. Spread over an area of 429.93 km<sup>2</sup> in the flood plains of Brahmaputra, the Park harbours the world's largest population of the Asian rhino species *Rhinoceros unicornis*, with 2,401 individuals making the Park their home in 2015. Whilst annual flooding can decimate The Park's rhino population, monsoons are also a regenerative seasonal event.

**Bibhab Talukdar** | Chair, Asian Rhino Specialist Group; Asia Rhino Program Coordinator, International Rhino Foundation; Secretary General, Aaranyak

**K**aziranga's conservation value was internationally recognised in 1985 when it became a designated UNESCO World Heritage Site. Kaziranga represents the single largest protected area within the north east of India to provide long-term viable conservation. Formed by the alluvial deposits of the Brahmaputra river and its smaller tributaries, which carry a great amount of silt during the rainy season every year, the riverine landscape is colonised by *Saccharum* and other grass species as soon as the landmasses are stabilised over the course of time, silt deposits and the changing course of the Brahmaputra river have formed into beels (water bodies/lakes) of various sizes and depth. This process of erosion and deposition is still going on along the northern boundary of Kaziranga National Park.



camps can be reached by boat by long detours, while others can only be accessed reached with the help of both boat and elephants or only on foot; swimming across the nallahs

**At the onset of monsoon, animals in the low-lying southern boundary start migrating to the Karbi Anglong Hills, while those of the central and northern parts seek shelter in the forested highlands of the Park**

In the past, adjoining forests of Karbi Anglong and grasslands of Kaziranga National Park formed one single ecological unit of ideal wildlife habitat with very few human habitations. Today, however, the Park has seen human settlement and tea plantations move into its ambit after a road – National Highway

No.37 – was constructed. Some challenges to managing Kaziranga's rhino population are, sadly, universal. Poaching is an ever-present threat and human populations are increasingly putting pressure on diminishing rhino habitat. But others are unique to this beautiful landscape.

In particular, Kaziranga sees annual floods during the monsoon season, with low-lying areas hardest hit. At the onset of monsoon, animals in the low-lying southern boundary start migrating to the Karbi Anglong Hills, while those of the central and northern parts seek shelter in the forested highlands of the Park. Animals, especially deer, living in the river islands along the northern boundary can be washed away by the current of the turbulent Brahmaputra River. Some animals migrating to the Karbi Anglong Hills through the populated villages and across the highway are killed by poachers and fast-moving motor vehicles. However high-profile, such incidents are sporadic.

During the flood season, communication between ranger camps and Headquarters becomes very difficult. Some

and other low-lying areas. During such time patrolling is done mainly by boat. Many camps situated in strategic and low-lying areas of the Park are submerged by water during high floods, forcing rangers to vacate their posts.

While floods can destroy, their ecological importance needs to be underscored too. The floods bring new nutrients, which rejuvenate the ecosystem and help new grasses to grow. The floods maintain vegetation profile and help in soil formation. The numerous beels and similar water bodies in the Park are replenished by the floodwaters and serve as havens for wildlife, especially migratory birds. Fish use the new floodwater to start breeding and also move out into the main channel of the Brahmaputra River, thereby maintaining the rivers' fish stocks.

However, the increasing intensity of flooding is posing huge challenges to the ecosystem. Every year, large chunks of land on Kaziranga's northern boundary are washed away by the Brahmaputra River. The points of erosion change according to the River's varying course. Sometimes areas previously eroded are restored by heavy silt depositions. But the overall trend is worrying: from the early 1900s until 2021, 83,385 km<sup>2</sup> of land in Kaziranga has been eroded by the Brahmaputra River, leading to severe losses of wildlife. A continuous process of siltation and invasion of weed species like *Eichornia*, *Mikania*, *Mimosa* etc., have posed a big problem to the region's wetlands; integral for survival of the many important fauna such as rhinos, wild buffalo and myriad bird species.



Increased human-wildlife competition also plays a role. The inhabitants of villages adjoining the National Park sometimes illegally fish in the numerous beels of the Park, and heavy traffic on National Highway No. 37, as one of the major links connecting the north east to mainland India, often results in road kills, particularly during the flood season. Increasingly, wildlife and livestock are coming into closer contact, risking the transfer of disease. Corridors for migrating wildlife have also been stymied by unregulated construction. This is of prime concern, as Kaziranga has one of the highest concentrations of rhinos per km<sup>2</sup> of any rhino range state, with just 0.2 km<sup>2</sup> per rhino, compared with a recommended 1 km<sup>2</sup> per animal. Even with planned expansions of the Park's boundaries, this ratio will still be below recommended levels.

As the custodian of world's largest number of Greater one-horned rhino, the Park acts as a major donor site for the Indian Rhino Vision 2020 project to replenish other rhino-bearing areas in Assam by translocating rhinos. So far, Kaziranga has moved eight rhinos to Manas NP and two rhinos to Burachapori Wildlife Sanctuary through IRV2020.

The very fact that Kaziranga National Park is the home to the single-largest population of Greater one-horned rhinos makes it attractive to poachers. To combat this threat, the Park authorities are working with a network of intelligence gatherers, usually local villagers or poachers who have turned over a new leaf. To further involve local communities near the Park, its management is focusing on eco-development activities such as eco-tourism. To improve the tracking of poachers who do enter the Park, new vehicles and boats – especially during flooding – have been procured and new watch towers constructed alongside improved accommodation for rangers.

### Grants

Since November 2015, we have sent £911 from West Midland Safari Park, €2,500 from IDEXX, £5,000 from core funds, £500 from Assam Rhinos Cricket Club and £302 in miscellaneous donations.

### Rhino Stationery

Thank you to **Victor Stationery** and its Rhino Stationery for their incredibly generous support in raising more than £68,000 since 2006 to help Save the Rhino in our work to protect all five rhino species across Africa and Asia. [www.rhinostationery.com](http://www.rhinostationery.com)

Opposite, top to bottom:  
Greater one-horned rhinos are semi-aquatic;  
Annual floods force animals to migrate to higher ground;  
Calves are particularly vulnerable to losing their mothers during monsoon season;  
Flooding is not all bad since monsoons help keep the region fertile

